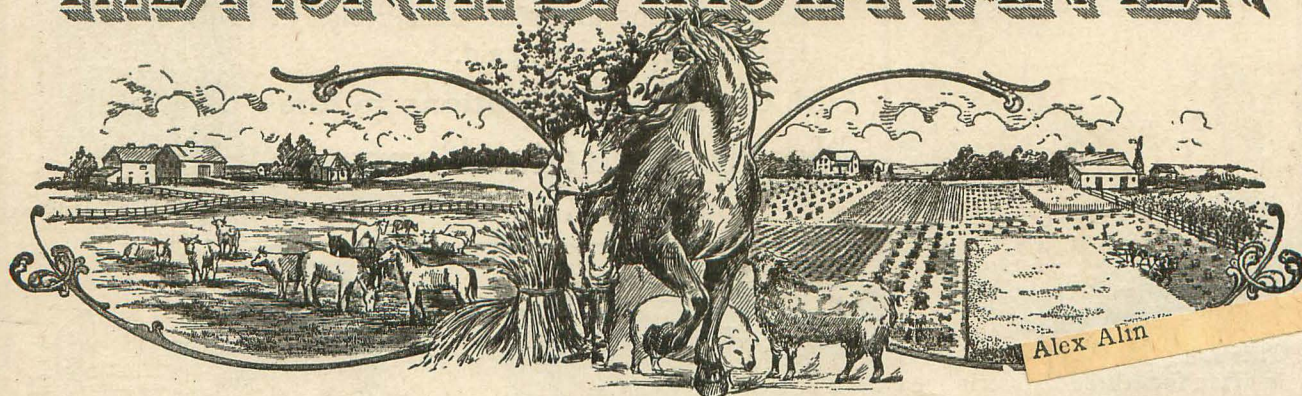


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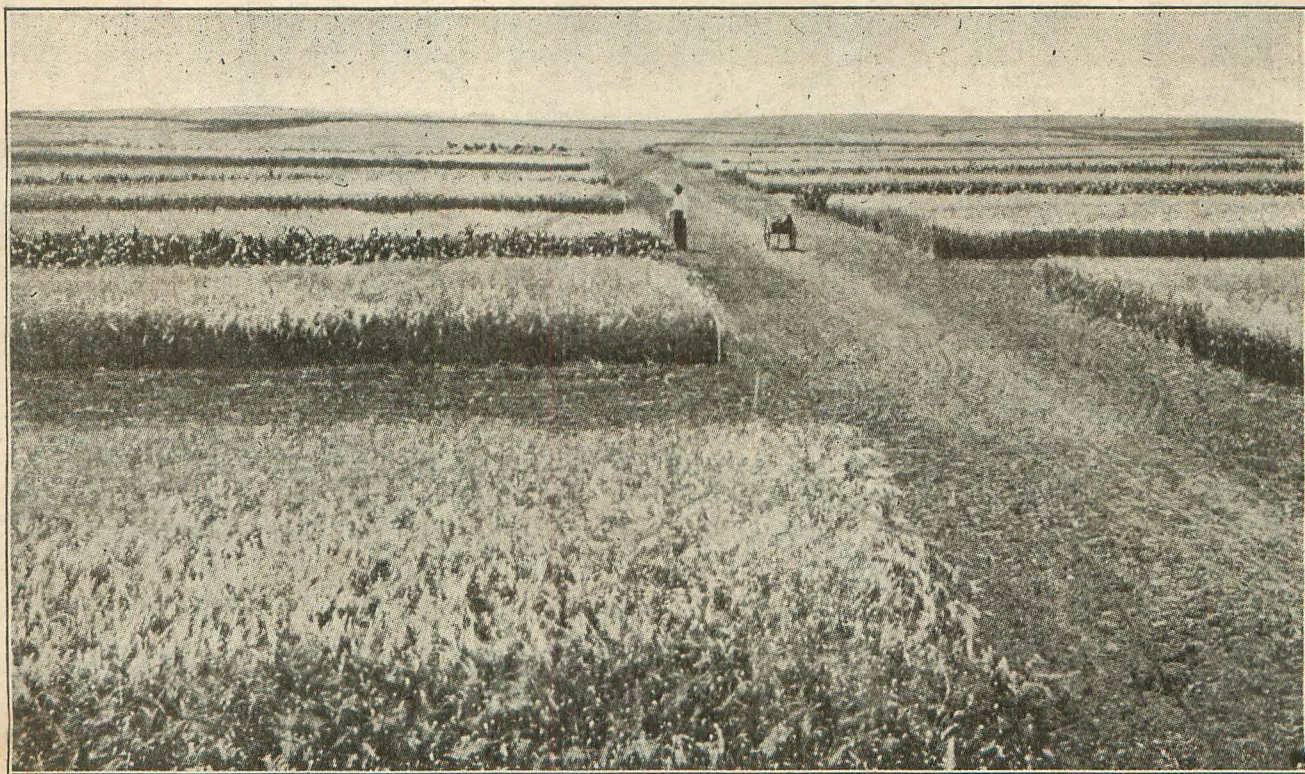
# THE NORTH DAKOTA FARMER



"THE NORTH DAKOTA FARMER FOR NORTH DAKOTA FARMERS"

Vol. 12 · No. 6    Lisbon, North Dakota, December 15, 1910    50 Cents A Year

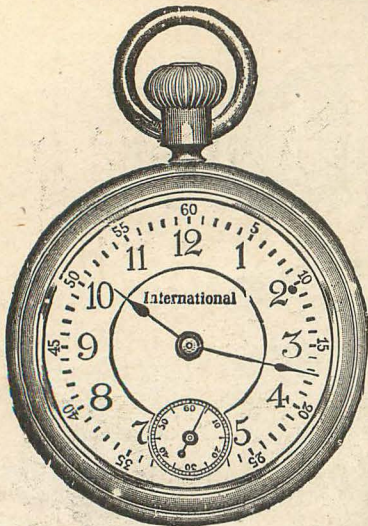
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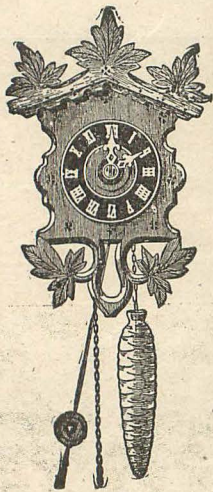




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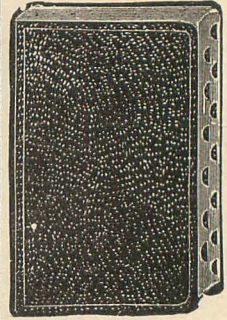


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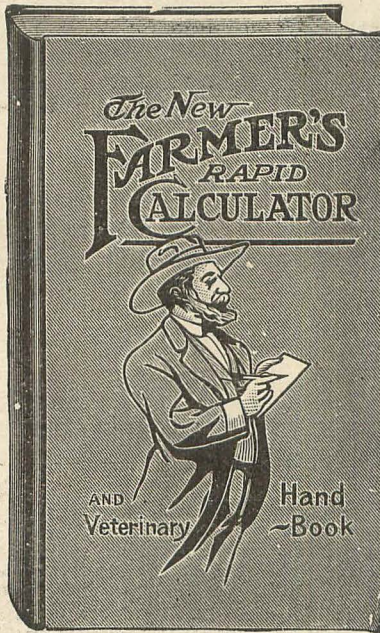
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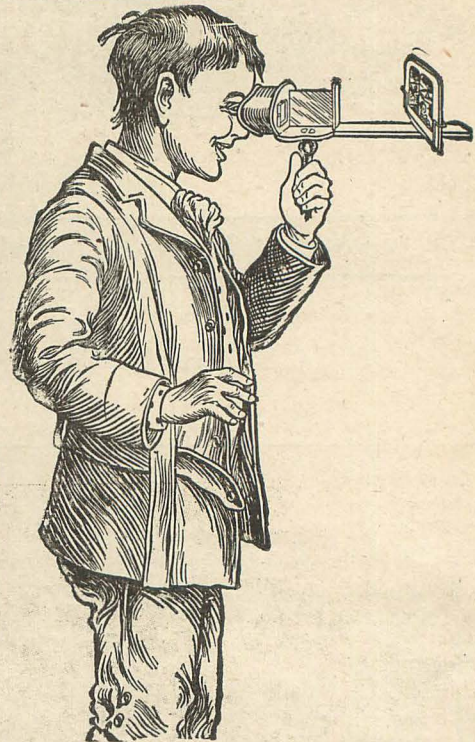
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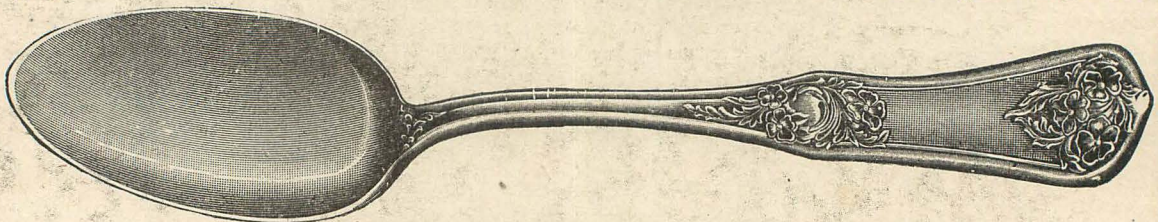
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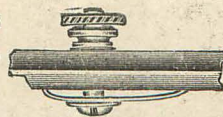
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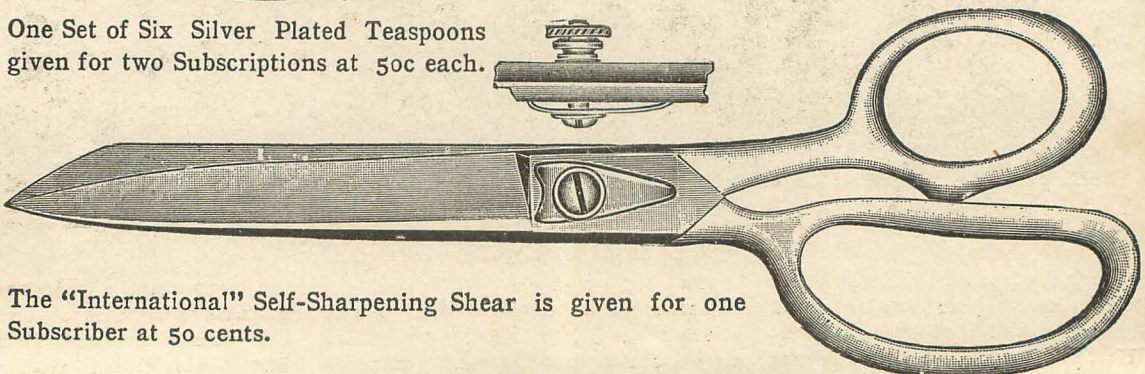
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# THE NORTH DAKOTA FARMER

Vol. 12, No. 6

LISBON N. D., DECEMBER 15, 1910

50 Cents a Year

## Dry Farming Congress

W. C. Palmer

The Dry Farming Congress, which was held at Spokane in October, represents a bigger movement than most people are aware of. It has as its mission the bringing into cultivation of an immense number of acres of land situated in sections where the rainfall is small, in fact it has been looked upon as being insufficient for crop production, but by dry farming methods this land can be made to produce crops. It has almost been a marvel, the yields that have been secured with rainfall down to less than 10 inches, by growing a crop every other year,—yields of wheat running as high as 40 to 50 bushels; of oats, 75 to 80 bushels, and other crops in proportion, but to secure these yields, certain methods must be followed. At the Congress, by bringing together the experts from the different lands, and each relating what he has worked out, all may have the benefit of each other's experiences.

The railroads are very much interested in this movement, and they should be, as it means opening up empires along their line of road, which will mean increased traffic. The products of the fields and orchards to be carried to the eastern manufacturing centers and the manufactured products to be carried back to supply the wants of those new farmers. To the settlers who understand how to manage this soil, the profits are good, many claim that they can make much larger profit on dry farms than they can with irrigation farming. The expense is certainly less, the yields very satisfactory and the quality very high; in fact, it is teaching the irrigator to get along with less water so that this same movement is extending the areas that can be irrigated on account of less water being used, and it is also teaching the humid region farmer the possibilities of his soil, provided he gives some attention to its cultivation. The dry farmer knows that he must follow out a certain line of culture. The humid region

farmer thinks any old way will do, so the dry farmer is securing better yields, under what has been considered more adverse conditions. Perhaps tho, as we learn more about it, the dry farmer is working under the most advantageous conditions. The civilizations of the past grew up largely in dry farming countries, and who will say that history shall not repeat itself?

The program was a varied one, and the topics taken up include such subjects as education, soil management, crop production, stock raising and the different phases of agriculture.

The first number on the program after the speeches of welcome, etc., had been made, was by Bakonyi, Minister of Agriculture of Hungary. He stated that Campbell's book on soil culture had been translated into the language of his country, that at the experiment station they were making trials of this method of soil culture as compared with that commonly in use, and the results were simply astonishing. The yields were increased from 30 to 100 per cent, and some of the farmers who had tried it had secured yields that were three to four hundred times as large as those of their neighbors, practicing the old method of soil culture.

Krystohfovitch, the Russian representative, spoke of the contribution that Russia had made to American dry farming. He mentioned the durum wheats that were introduced into this country from Russia some ten years ago; that 50,000,000 bushels annually are now being produced. He also spoke of the alfalfa, the millets, the sorghums, oats and buckwheat that have been introduced and found superior to those already being grown.

Escobar, the representative of Mexico, spoke of the attempt they were making to introduce better farming methods among their people. He spoke of what he had learned at the Congress and by

visiting the American experiment stations last year.

Alberto Alibauh spoke of the mission dry farming could perform in his country, that there were considerable sections that could only be brought under cultivation as dry farming methods could be introduced.

Motherwell of Saskatchewan and Marshall of Alberta spoke of the big mission that dry farming had to perform in their respective provinces which they represented.

This certainly gives an idea of the good that this Congress can accomplish.

Education was one of the prominent subjects taken up at these meetings. The first talk on this subject was by President Worst of the North Dakota Agricultural College, who contended that education should give the student some instruction in the line of work that they were likely to have to follow; that in the rural community agriculture should receive some attention, and that to make place for it some of the more technical parts of arithmetic and grammar could be abbreviated. This address, tho on a so much discussed subject as education, was told in such a masterful way that there was almost continuous applause, and when the address was concluded, the auditorium rang with the cheers. The papers came out that evening with full page headlines, and used such adjectives as masterful, sensational, epoch-making, in dress. This is significant, as it indicates what the farmers, business men and experiment station workers are expecting of education.

Chamberlain, Superintendent of Farmers' Institutes of South Dakota, also made a discussion along this same line. He stated that agriculture should be put in the rural schools, and he also lamented the fact that the teach-



ers were too often from the city, had no interest in the country whatever, and that before they had been at their school two weeks had succeeded in making the pupils dissatisfied with country life, in that they had found fault and called attention to the many ways in which country life differs from the city, or called attention to the many advantages that would more than over-balance the other.

Dr. Hamilton, President of the Montana Agricultural College, and Dr. Bryan, president of the Washington Agricultural college, also spoke along the line of education and the work that the agricultural college is doing in molding public opinion, and the great work that it has yet to do.

A good many farmers not only attended the meetings, but took part in the program. One of the most clear-cut talks was made by Mr. Parsons of Colorado, who spoke of the value of deep plowing and of surface cultivation. He advocated plowing at least 10 inches deep, and stated that if there should be a law forbidding plowing more than 7 inches deep, he would give up farming, as he finds the greatest profit comes in increasing the plowing beyond 7 inches.

Jacob Eastgate of North Dakota discussed the drift of soil, which is one of the serious problems that confronts the dry farmer, when he allows the humus of his soil to become exhausted. He advocated putting in organic matter by adding manure, by sowing clover and timothy, and by stock raising.

The testimony of these farmers is very valuable, as it is these who most put these dry farming methods into practice. Even if experiment stations get good results from their experiments, if the farmers could not do so, then it would avail but little; but they gave their testimony and they were all unanimous, in that, deep plowing, surface cultivation, thin seeding, selecting good seed, and things like that were the things that make for success.

The most striking paper, and it seems to the writer the epoch-making one, was one prepared by Widdsoe of the Utah experiment station. It was not read, however, but the writer had the good fortune to secure it. He brought out the fact that a plant growing on a poor soil requires more water to produce a pound of dry matter than one growing on a rich soil. This is not a new thing; it was worked out in France. Pagnoul, for instance found that it required 1109 pounds of water to produce a pound of dry matter on a pure soil, while on a rich soil 574 pounds would accomplish the same. It has, however, remained for the Utah Experiment station to dig it up, to verify its results and to send it out. He cited some experiments, one

for instance of corn grown on a sandy loam soil, not cultivated required 603 pounds of water to produce one pound of dry matter. The same soil cultivated would have required but 252 pounds. Grown on a clay loam soil 535 pounds of water were required to produce one pound of dry matter when it was not cultivated; when cultivated, 428 pounds accomplished the same results. On a clay soil 753 pounds were required when not cultivated; when cultivated 582 pounds accomplished the same. He also gave results indicating how adding manure appreciably lessened the amount of water required to produce a given amount of dry matter. The importance of this fact is not easy to estimate, and it is one that a dry farmer should keep in mind.

Prof. Shaw of California spoke of the importance of humus, stating that it was one of the things in the soil that was indispensable, in that it held moisture, plant food, and helped men to maintain a good physical condition of the soil.

Prof. Shepperd of North Dakota gave an address on dry farming rotation, which appeared in a previous issue of the North Dakota Farmer. Prof. Porter, Superintendent of demonstration farms of North Dakota, gave a talk in which he outlined the method used in carrying on his work. This was received with a great deal of interest.

Prof. Tinsley of the Santa Fe railroad related his experience in working co-operative work between his railroad and the farmers in New Mexico. Prof. Bainer of the Santa Fe railroad gave an address on dry farming. Prof. Martin of the Santa Fe railroad spoke of the railroad's interest in dry farming. They are desirous of developing the country along their line of road, which means increased traffic, and so of course they were interested in the spreading of the gospel of dry farming. There were so many good addresses and papers, but space forbids to go further at the present.

When it came to the election of officers two factions developed,—on the one hand the politicians, and on the other the farmers and the experiment station men. The latter were anxious to make the Congress a real investigational affair, and they chose President Worst as their nominee for president. Seeing that there was no hope of winning against the farmers and experiment station men, with their forces marshalled under the banner of Worst of North Dakota, the election was made unanimous for Worst.

Burns was reelected as secretary. The next meeting will go to Colorado Springs, Colorado. The executive committee of the Congress is trying to establish a foundation of one-half million dollars, which will enable the Congress

to do more effective work, as at present the secretary must spend considerable time raising funds to carry on the work.

Is there a more laudable purpose to which some rich men could put their money than this dry farming Congress which has for its mission the bringing into cultivation of millions of acres that are now laying waste and thus establish homes for millions of people?

The discovery of a new continent is looked upon as one of the milestones in the world's history. The Dry Farming Congress has discovered an area larger than any continent, which it has proposed to bring under cultivation and will do it as fast as it has the means. Where is the man who will finance this great movement, which is converting the waste places of North and South America, Asia, Africa and Australia into fields and gardens,—places once looked upon as desert; and more than this, that is teaching the irrigator how to irrigate and giving the farmer in the humid regions pointers on how to conduct his business so as to raise larger crops?

#### SLAUGHTER OF GAME BIRDS

The mallard duck, along with many other fine game birds, is doomed to extinction unless the states adopt restrictive measures to curb the pothunters. Wholesale slaughter, similar to that which caused the extinction of the once plentiful wild pigeon or the buffalo, continuous in the regions in which the mallard abounds. In the parish of Calcasieu, Louisiana, about 250,000 mallards were killed last winter. One hundred and twenty thousand were shipped to market from Big Lake, Arkansas, where a single pothunter established a record by killing 8,000 in one winter. Once there were millions of wild pigeons in this country. This splendid bird is now extinct. The pigeons were slaughtered by pothunters. In nearly every state there is a closed season on the mallard and other game birds, but this is not sufficient. What is needed to prevent extermination is a limit on the number of birds any one hunter may take during the open season. Here is a need for the application of "conservation."

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NORTH DAKOTA FARMER, Lisbon

Latest! Special Offers, Page 2



## THE NORTH DAKOTA FARMER

### ALFALFA BREAD

Daniel E. Willard, Developing Agent,  
N. P. Ry. Co.

The increased cost of living is a question that has forced itself upon public attention with an insistence that is nearly, if not quite, irresistible. The writer is not one of those who think that the limit of productivity of the soil has been reached or is likely soon to be reached. Neither does he think that human ingenuity has anywhere near reached its limit in devising means of making greater use of the natural products we now have. More will be produced as we learn better methods of agriculture, and more effective uses will be found for the products of the earth as

sweet and palatable bread, resembling somewhat in color bread made from ordinary graham or whole wheat flour, having a pleasing nutty flavor, and the statement is made on good authority that but a slight amount of wheat flour was admixed to give a binder effect, rendering the texture a little more elastic and less crumbly. There were cakes and cookies, having much the color and texture of common brown cookies, good sweet and eatable, and made entirely from alfalfa flour, as vouched by the chef who originated the recipes and prepared the luncheon. There were alfalfa biscuits, light in texture, delicate and palatable, made with a slight admixture of wheat flour.

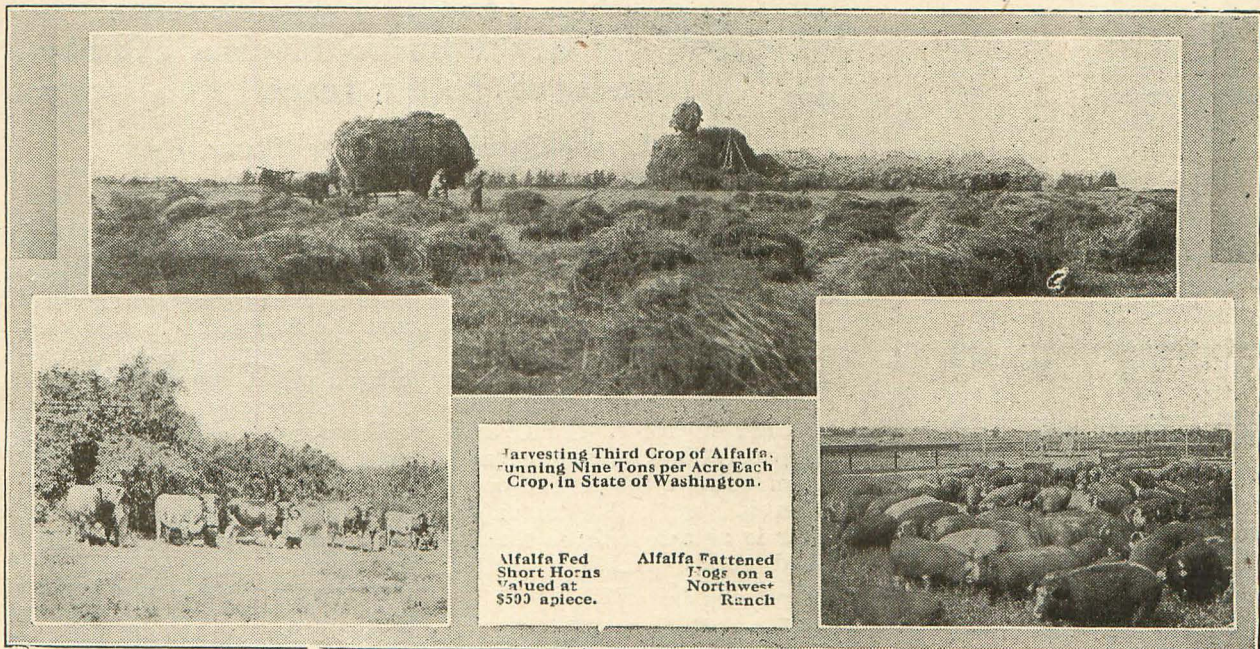
The honor of originating "alfalfa flour" belongs to Dr. W. X. Sudduth, of Billings, an enthusiastic grower of alfalfa, and the honor of being the originator

### FAITH IN NORTH DAKOTA

Nothing has happened in the history of North Dakota which shows more forcibly that men of capital have infinite faith in the stability of North Dakota and its institutions than the willingness of capital in an off year such as North Dakota has just experienced to invest its funds freely.

Those who are in a position to know state that a large amount of capital, which formerly was invested in the eastern states, is seeking an outlet in North Dakota, and that farm loans are being made just as if North Dakota had experienced a bumper crop in 1910.

Regarding the disposition of capital to invest in the new states of the west, Paul Morton, president of the



demand of an increasing population requires.

It was the writer's good fortune to be a guest at a luncheon given by the Commercial Club of an enterprising city located in the midst of one of the greatest alfalfa growing districts of the Northwest—Billings, Montana—on the menu of which was printed in conspicuous type the words "Alfalfa is King," and the luncheon was in real fact a "dinner of alfalfa." There was roast spring chicken—alfalfa fed, with alfalfa dressing. That the chicken was good all can truthfully vouch who partook of it. That the fowls were alfalfa fed the writer is not inclined to doubt, for he knows that alfalfa is a good and practical feed for poultry, and he has the word of reliable men that these birds were fed and fattened on alfalfa. There was alfalfa bread—actual loaves and slices of fresh,

of alfalfa bread and cakes, so far as the writer has been able to learn, to Mr. Charles Nullemer, Chef of the Grand Hotel, Billings

In an informal toast at the luncheon referred to, the writer stated that he had never viewed with alarm the cry that the human race is rapidly approaching an era of food shortage due to the exhaustion of the resources of the soil, but that when he saw such a demonstration of what can be done in the preparation of human food from one of the greatest staple crops of the Northwest, and tasted the products, his optimism received a great uplift, and if the luncheon to which we had been so generously served was an earnest of future possibilities, he could see no reason for pessimistic forebodings lest the world's supply of food should become exhausted.

Equitable Life Insurance Co., recently stated in Chicago as follows

"Western people will be glad to know that as a general proposition the eastern life insurance companies are making an effort to invest their reserve funds in those sections of the country which produce the premiums. I know of one large life insurance company which five years ago had real estate mortgages in only eleven different states, but which today has them in thirty-one different states. I know of one company which has six millions less in mortgage loans in New York city than it had five years ago and which during that time has increased its mortgage loans in other states about \$18,000,000."

This merely shows the trend of capital. What is true of the life insurance companies is also true of the



small investors. In probably no state in the union have farm loans been more popular as an investment than in North Dakota. North Dakota has been so thoroly advertised as a great agricultural state with unlimited agricultural possibilities that the mere fact that a loan is made on a North Dakota farm is a big point in its favor. The people have faith in the future of North Dakota, and this faith is unshaken by any temporary adversity that the state may experience.—Minot Optic.

#### LIST OF INSTITUTES SCHEDULED

Oriska—December 20.  
Clifford—December 23.  
Tower City—January 2.  
Wyndmere—January 3.  
Courtenay—January 4.  
Manfred—January 5.  
Anamoose—January 7.  
Balfour—January 9.  
Antler—January 11.  
Souris—January 12.  
Rugby—January 14.  
Kindred—January 16.  
 Fargo (Grain Growers' Convention)—  
Jan. 17-20.

#### DEC. INSTITUTES

##### At Voltaire

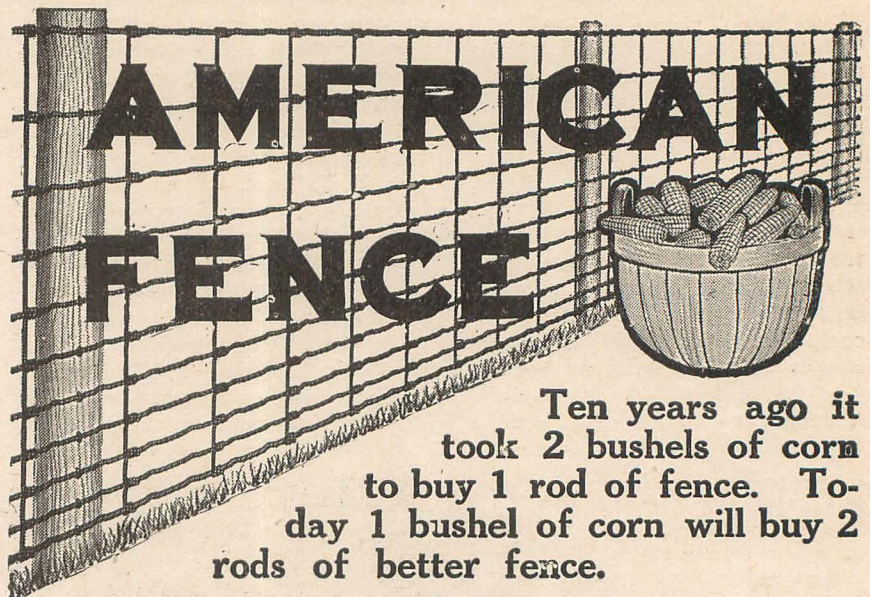
The Farmers' Institute held at Voltaire brought out a number of unique things. The hall in which they met is owned by the farmers, and was built by them. They also own the telephone line, an elevator and the townsite and run their own fire insurance company.

The meeting was conducted by Supt. Hovrstad who was assisted by E. H. Pierce, Ass't Dairy Commissioner, W. R. Porter, Supt. of Demonstration Farms and W. C. Palmer, Agr. Editor of the Agricultural College.

It was learned that several of the farmers had raised fine crops of corn this year, corn that had matured enough so as to be all right for seed. That is a fine demonstration of what can be done in an adverse season. Late frost, dry weather, and early frost. This is a test that certainly demonstrates what can be done with corn here.

Prof. Palmer then took up a discussion of the corn crop. He stated that the Indians grew corn even further north than here and that it is the same corn that we are growing today, that has been improved. Fall-plowing was recommended, harrowing early in the spring to warm it up so as to warm up the soil to let the weeds germinate, harrow a couple of times, then disc thoroly before planting. This will kill the weeds that have started. On spring plowing there are more weeds to kill in the corn. Harrow as soon as the corn is

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FRANK BAACKES, Vice-President and General Sales Agent

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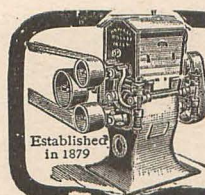
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planted, and harrow at intervals of every ten days till the corn is four to five inches high. Then cultivate shallow as the roots go quite near the surface. Whether the corn is to be used for fodder, for ensilage or for the ears it should be allowed to get almost ripe before cutting as it increases in food value till it is ripe. He thought the most valuable thing about the corn crop for the present was the good effect that it has in preparing the soil for a crop of grain.

Keep an account with the cows as to the feed fed and as to the milk given was the burden of a talk by Mr. Pierce. He related how he had assisted in checking up on herds and it was found that there could be considerable saving by feeding the cow in proportion to the feed given. One pound of feed to three pounds of feed was the ratio given. The warming of the water will enable the cows to drink more and thus to increase the milk flow. The cows should not be worried by dogs, this is one of the causes that frequently reduces the milk flow.

Prof. Hoverstad discussed the silo, or making sour kraut for the cows. He discussed the merits of this way of curing feed for the cow. A silo 16 feet in diameter and 30 feet high will hold 125 tons and will cost from \$250 to \$300 and it requires a cutter to put the ensilage into it and an engine to drive the cutter. When putting it into the silo it should be tramped; he suggested that it would be a good job for a big chunk of a lazy fellow as it would keep him moving to keep from being covered up. When asked as to whether the cows would eat it at first, said that they would as far as he had tried but that if they would not he thought that they would be like the pigs that were being fed a new kind of feed that the farmer pulled their ears off getting them to it and then pulled their tails off trying to get them away from it. Freezing will not hurt the ensilage. When it thaws out it seems to be as good as ever. If the corn is frosted before putting into the silo that does not seem to hurt it either.

Supt. Porter in his talk on rotation brought out the increase in yield that he had secured on the demonstration farms by rotating the crops. The fields that had been in the rotation for three years gave an average of 26½ bushels last year; those that had been rotated two years 22¼ bushels, first year 14½ while the average for the state was 13 bushels. This year the average on the demonstration farms was 8 bushels while the average of the state was but 4½. The rotation that is practised is corn followed by two crops of wheat followed by a crop of timothy and clover when he can get a stand. When it fails he puts in peas and oats, then a grain crop and back to corn again. He ma-

nures the corn crop. For a half section farm this would mean 60 acres of corn 180 acres of grain, wheat, oats or barley, and 60 acres of clover and timothy or peas and oats in case the other failed. Leaving 20 acres for the farmstead.

Free dinner was served by the farmers themselves in their own hall. Often times when an institute is held the business men serve dinner but here the farmers are the whole cheese.

In spite of the snow and cold the attendance was very good: men, women and children—no race suicide here. These farmers are unusually wide awake, independent, confident in their abilities, as success has come to them in their many enterprises.

#### At Marion

Marion held its first Farmers' Institute on Friday and Saturday, Nov. 18 and 19. It was one of the most successful institutes held in the state. There were many speakers representing different lines of work, so the program was crowded with good things from beginning to end.

L. B. Bassett, Supt. of the Johnson Stock and Farming Company, had charge of the meeting and was assisted by Mr. Edwards.

There were so many good things on the program that it will be out of the question to mention all. A very interesting discussion was given by L. B. Bassett on "Crop Without Rain." He brought out very emphatically the need of deep plowing, surface cultivation and keeping down the weeds in order that the moisture might all be saved up for the crop.

In this same connection Prof. Palmer spoke of the fact that has been worked out in Utah that crops can make a larger yield on a rich soil with a given amount of water than they can on a poor soil.

Supt. Porter of the demonstration farms discussed winter grains. He spoke of rye as being perfectly hardy—that with winter wheat he had had failures as well as successes—that the most successful way of growing it had been on corn ground, sowing it in August and leaving at least every third or fourth row to hold the snow.

R. F. Flint, Dairy Commissioner, made an address on the subject, "North Dakota, a Coming Dairy State." He brought out the fact that the number of dairy cows in this state had increased over forty per cent in the last two years—that the corn acreage had about doubled, which is certainly a fine indication of the fact that North Dakota is developing along dairy lines.

Mr. Edwards in his discussion, "The Cow an Asset on the Farm" called attention to the fact that the dairy cow furnishes a profitable product and also

enriches the soil. He also called attention to the need of keeping good cows—cows that would pay for their feed and at least some towards the labor of keeping them. He stated he found the labor cost \$2.50 per cow per month.

Prof. Martin discussed "The Improvement of Dairy Cattle." He said in Wisconsin where records were kept of the herds it was found that some were losing as much as \$8.50 per head, while others were making a profit of \$35.00 per cow. This was discovered as they began keeping records. He recommended the starting of testing associations.

Gust Kruempel of LaMoure in discussing "Cream" stated that more and better butter could be produced from thin than from thick cream, and advised that the cream be skimmed to not over 25 per cent. The thick cream had been brought about by the centralizers who want to have less to ship.

Mr. Walters in discussing "Poultry" took up the subject of "Housing, Feeding and Care" giving a very complete discussion on the subject.

Joel Winkjer of the Dairy Department, Washington, D. C., also discussed the "Improvement of the Dairy Herd."

Other subjects taken up at this meeting were: "Feeding and Care of the Dairy Calf" by Earl Leach. "Trials of Butter Maker", E. A. Greenwood, "Clover and Alfalfa by Supt. Porter, "Grains and Weeds" by Prof. Palmer, "Pure Cream" by Prof. Meyers of Wisconsin.

The interest was very good and the attendance was large, in fact, had the hall been larger there would have been more people there, as it was packed. Free dinner was served both days. On the last day a visit was made to the Johnson Stock and Farming Company Farm No. 13, which is located in Marion.

**BEEKEEPING** its pleasures and profits. is the theme of that excellent and handsomely illustrated magazine, **GLEANNINGS IN BEE CULTURE**. We send it for six months on trial for twenty-five cents, and also send free a 64-page book on bees and our bee supply catalogue to all who name this paper. **THE A. I. ROOT CO.**, Box 78, Medina, Ohio.

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Frozen Lake Superior herring can be had from hundred pounds to tons at low prices. For prices write to: **Severtson Bros., 1921 W. 2nd Street Duluth, Minn.**

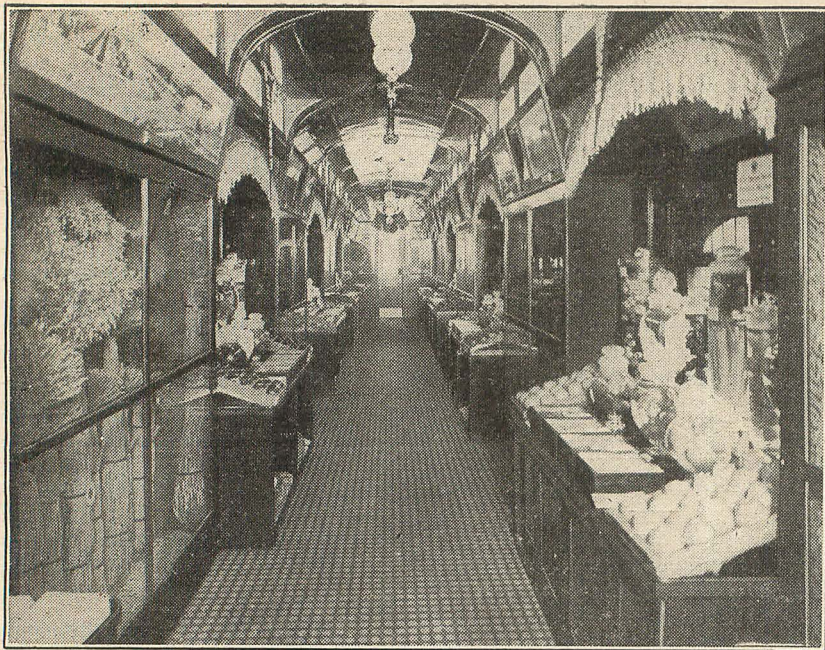
**HONEY** Well ripened clover Honey for Sale, guaranteed absolutely pure and of the finest quality. One 30-lb can 11½¢ per lb., 2 or more cans 11¢; 12-lb cans, in full cases of 72 lbs., 11½¢ per lb. Send for price list. Address  
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**FERGUS FALLS, MINNESOTA**  
for list of 100 farms





#### A RAILROAD SHOW CAR

##### Traveling Exhibit of Northwest Products

On a tour of every state in the Middle West and East is a carload of products of the soil collected by the Northern Pacific Railway to bring the Northwest to the doors of those who cannot go out and see it. This is literally "bringing home" the evidences of the fertility of that vast territory in a way that will leave a lasting impression. This exhibit car is making one and two day stops at points along a route which has been mapped out to cover as wide a sweep of country

as possible during the winter months. Grains, grasses, fruits, vegetables and pictures vie with each other in commanding the attention and admiration of beholders. The car is the very latest style of passenger coach remodelled to adapt the space to the exhibits. Every inch is utilized and the variety of material shown is a source of wonder. No room for doubt is left as to the productivity of the states represented in the car, which include all thru or into which the Northern Pacific runs, namely: Minnesota, Wisconsin, North Dakota, Montana, Idaho, Washington and Oregon.

#### ORCHARD COVER CROPS

The growing of leguminous cover crops in orchards is generally considered excellent practice. At the Ohio station apple trees grew more rapidly and yielded larger crops when the orchard was kept in grass. The ground was not, however, double-cropped; the grass when cut was mulched about the trees. Where the trees were cultivated 4 feet about the base, the results were distinctly inferior.

#### BEE DISEASES

The honey bee annually produces a crop of honey valued at at least \$20,000,000, and there are vast opportunities for increasing this output. The most serious handicap to bee keeping in the United States is the fact that there are contagious diseases which attack the brood of the honey bee. There are now recognized two such diseases, known as

American foul brood and European foul brood. From data recently obtained by the United States Department of Agriculture, it is known that American foul brood exists in 282 counties in 37 states, and European foul brood in 160 counties in 24 states, and it is estimated conservatively that these diseases are causing a loss to the bee keepers of the United States of at least \$1,000,000 annually.

Both of these diseases can be controlled with comparative ease by the progressive bee keeper, but the chief difficulty encountered in combating these diseases is the fact that the majority of bee keepers are unaware that any such diseases exist; they therefore often attribute their losses to other sources, and nothing is done to prevent the spread of the infection. It is therefore necessary in most cases to point out the existence and nature of the diseases, as well as to spread information concerning the best methods of treatment.

Several states have passed laws providing for the inspection of apiaries for disease, and the bee ekeepers in other states are asking for the same protection, so that careless or ignorant bee keepers can be prevented from endangering their neighbor's bees. This inspection is a benefit in the spread of information concerning disease, in so far as the inspectors can cover the territory. The Department of Agriculture is helping in this work by sending out publications to the bee keepers in infected regions, by examining samples of brood suspected of disease, and by sending out information concerning the presence of disease, so that bee keepers will be informed that their apiaries are in danger. The cooperation of agricultural colleges, state bee keepers' associations, and other similar agencies is being urged.

In view of the fact that these diseases are so widespread, every person interested in bee keeping should find out as soon as possible how to recognize and treat these maladies, and be on the look-out for them. A publication containing a discussion of the nature of these diseases and their treatment will be sent on request to the Department of Agriculture.

#### CASSAVA FOR STOCK

Investigations relating to cassava as a farm crop are being conducted by the Department of Agriculture. The latest work is to secure strains of cassava that will reproduce true to seed. Three such strains have recently been produced and are now being propagated on a considerable scale. By propagating this crop from seed instead of cuttings the region to which the crop is adapted may be greatly extended, especially in those sections of the Gulf coast where corn does poorly. The cassava crop to a certain extent replaces corn on stock farms.



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## RELATION OF YIELD TO RAINFALL IN THE GREAT PLAINS

From the Latest Report of Department of  
Agriculture

The Office of Dry-Land Agriculture Investigations of the Bureau of Plant Industry has been conducting extensive investigations since 1906 to determine the cultural methods and systems of crop rotation best adapted to the conditions in the Great Plains. The following table has been compiled from the results of these experiments, which are now available to the end of the season of 1909. The results of the work cover experiments at eleven stations, extending from Montana to the Panhandle of Texas.

methods employed and the yields obtained are described in detail in the bulletin referred to. In the sixth column is given the average yield of wheat from the ten plats previously considered, namely, the seven rotation plats and three tillage plats; in the seventh column is given the rainfall from April to July, inclusive, in inches. This period is selected as coinciding most nearly with the average growing season at the different stations. The eighth column gives the total rainfall for the year, while the last four columns show the amount that the total rainfall for the year and the season was above or below the normal for that station.

Referring to the last columns of the table, it will be seen that for the 18

Variation in yield of spring-sown wheat with rainfall in the Great Plains  
(Based upon the field experiments of the Office of Dry-Land Agriculture Investigations)

Station & Yr.	Ordinary meth-ods.	Con-serva-tion meth-ods.	Sum-mer til-lage.	Rota-tions, aver-age of 7 plats.	Aver-age yield of 10 plats.	Rain-fall, April-July, inclu-sive.	Rain-fall for the year.	Rainfall for the year.		Rainfall for the season.	
								Above nor-mal.	Below nor-mal.	Above nor-mal.	Below nor-mal.
Judith Basin, Mont., 1909	Bush. 33.0	Bush. 33.4	Bush. 34.0	Bush. 34.6	Bush. 34.3	In. 14.0	In. 25.6	In. 10.4	.....	In. 1.4	.....
Dickinson, N. Dak.:											
1908.....	24.3	17.7	33.8	28.1	27.3	10.5	19.5	4.5	.....	2.3	.....
1909.....	26.8	25.2	35.7	36.4	34.3	11.2	20.9	5.9	.....	3.0	.....
Edgeley, N. D.											
1907.....	4.1	7.0	9.9	11.1	9.9	6.7	11.5	.....	8.0	.....	4.8
1908.....	13.3	15.3	16.0	17.1	16.4	9.2	17.1	.....	2.5	.....	2.3
1909.....	28.3	23.3	27.0	29.7	28.7	10.8	15.6	.....	4.1	.....	.7
Highmore, S. Dak.:											
1907.....	28.8	29.7	30.0	28.2	28.6	11.1	17.3	.....	.1	.1	.....
1908.....	26.3	19.7	30.7	25.3	25.4	12.5	22.4	5.0	.....	2.1	.....
Bellefourche, S. D., 1909.	23.8	23.3	32.2	29.1	28.3	7.9	(a)	.....	.....	.....	.....
North Platte, Nebr.:											
1907.....	24.5	26.0	31.8	23.7	24.8	12.3	19.1	1.0	.....	1.2	.....
1908.....	22.7	27.3	40.5	28.9	29.3	12.8	20.0	1.1	.....	1.7	.....
1909.....	23.0	15.3	18.0	20.1	19.7	13.7	18.9	.....	.....	2.6	.....
Akron, Colo., 1909	14.3	10.3	18.5	17.0	16.2	10.2	22.4	3.3	.....	.....	.....
Hays, Kans., 1908	1.2	4.5	4.2	3.8	3.7	14.2	25.3	1.9	.....	1.8	.....
Garden City, Kans., 1909	2.1	3.2	6.7	3.0	3.3	11.3	22.0	3.3	.....	.1	.....
Dalhart, Tex. 1909	.0	.0	10.5	1.1	1.8	8.3	16.0	.....	.....	.....	.....
Amarillo, Tex. 1908	17.0	14.0	16.0	10.5	12.1	12.6	19.1	.....	3.5	1.3	.....
1909.....	.0	2.8	10.5	1.4	2.3	8.5	18.4	.....	4.1	.....	2.9

(a) Year not complete.

The first column of the table shows the station and state in which the field work was conducted and the year in which the experiments were carried on; the second column gives the yield of spring wheat in bushels per acre under ordinary methods of cultivation—that is, shallow spring plowing and no harrowing of the grain after planting; the third column, headed "Conservation methods," gives the yields of spring wheat on land plowed 8 inches deep in the fall, put in good tilth in the spring before planting, and harrowed after the grain was up in order to conserve moisture; the fourth column, headed "Summer tillage," gives the yield of spring wheat grown on land summer tilled the preceding year; the fifth column, headed "Rotations," gives the average yield of wheat in seven different rotations carried on at each of the stations; all of the

series of experiments reported the rainfall for the year in 9 instances was above the normal and in 6 instances below the normal. While the yields in the greater number of cases have been obtained during wet years, very trying conditions were encountered at some of the stations. At Judith Basin, Mont., and at Dickinson, in the western part of North Dakota, the rainfall has been unusually high, ranging from 5 to 10 inches above the normal. The effect of this is well exemplified in the yields at Judith Basin, ordinary methods of cultivation giving as good yields with a bountiful rainfall as either conservation or summer-tillage methods. At Dickinson somewhat higher yields were obtained with summer tillage, but not enough to justify this method if the bountiful rains could have been foreseen.

At Edgeley, in the southeastern part

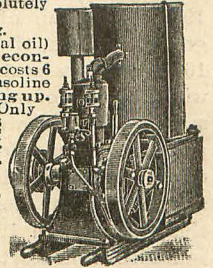
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## SPLENDID CROPS

in Saskatchewan (Western Canada)

800 Bushels From 20 Acres  
of wheat was the thresher's return from a Lloydminster farm in the season of 1910. Many fields in that as well as other districts yielded from 25 to 85 bushels of wheat to the acre. Other grains in proportion.

Large Profits

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For low settlers' railway rates and illustrated pamphlet, "Last Best West," and other information, write to Sup't of Immig., Ottawa, Can., or Can. Gov't Agt.

Chas. Pilling  
Grand Forks, N. D.

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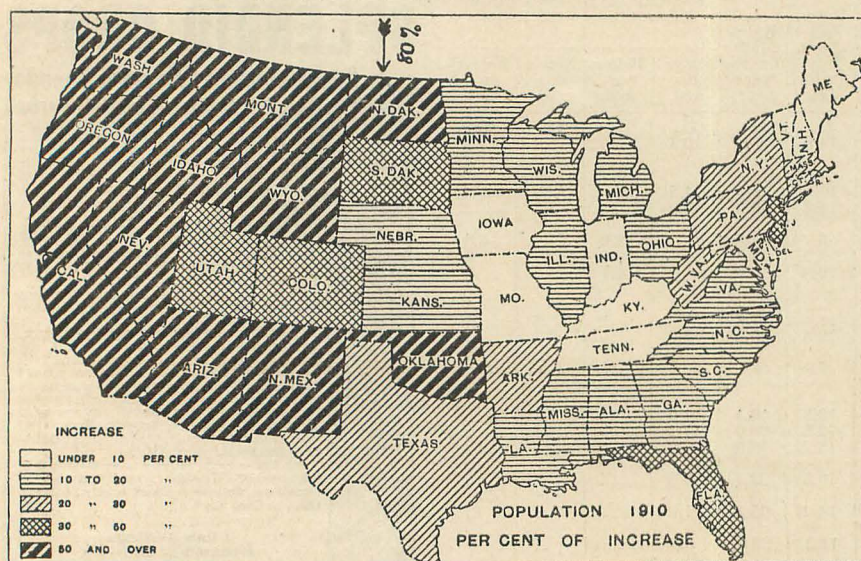


of North Dakota, three dry seasons were encountered. In the first less than 7 inches of rain fell during the growing season. The yield on spring-plowed land was 4 bushels per acre; on summer-fallowed land, 10 bushels. In 1908, with a rain of 9 inches during the growing season, the yields were 13 and 16 bushels, respectively; and in 1909, with 11 inches of rain during the growing season, the yields were 28 and 27 bushels per acre. The effect of a slightly increased rainfall during the growing season upon the yield is very marked at this station. In 1907, with a seasonal rainfall of 7 inches, the average yield was about 10 bushels per acre; in 1909, with a seasonal rainfall of 11 inches, the yield was about 29 bushels per acre, or a gain in yield of 19 bushels for an increase in rainfall of 4 inches.

that in 1907. The lower yield at Highmore in 1908 is probably to be explained by the fact that the last three weeks of July and the first week of August were very dry, less than 1 inch of rain falling during this time. These results show the necessity of knowing the seasonal rainfall when studying the relation of yield to rainfall in the Great Plains. Frequently, as in this case, a knowledge of the monthly rainfall is not even sufficient, but the daily distribution must be known to determine the influence of the precipitation upon the yield.

At Bellefourche, in western South Dakota, in 1907, a yield of 24 bushels was obtained on spring-plowed land as compared with 32 bushels on summer-tilled land and 29 bushels as the average yield on the rotation plats. These

#### What's the Matter with North Dakota?



She's all right

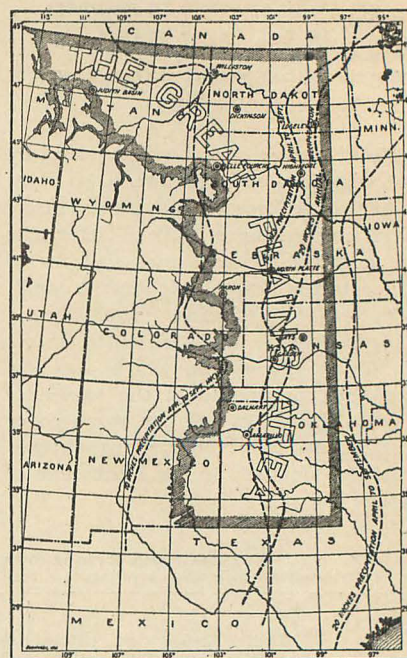
The results at Edgeley show an increased production on summer-tilled land during 1907, which was very dry. It is important to note, however, that the average yield from the rotation plats was even higher than from the summer-tilled land at this station during this dry year. In fact, the rotations gave better yields than summer-tillage methods for each of the three years during which experiments have been conducted at this station. This indicates that summer tillage is not profitable on the soils of the Edgeley district even during years of deficient rainfall.

An average yield of about 28 bushels was obtained at the Highmore station in South Dakota during the season of 1907 under a normal rainfall. In 1908 an average yield of 25 bushels per acre was obtained at this station. The rainfall during this year was 5 inches above the normal, but it will be seen from the table that the rainfall during the growing season was only 1.4 inches above

yields were obtained with a rainfall of about 8 inches during the growing season. It will be noted that while summer tillage gave the highest yields, the yield from the rotation plats was nearly as high. Therefore, on the heavy gumbo soils represented by the Bellefourche district, with a seasonal rainfall of 9 inches, the results indicate that crop rotations will give much better returns than summer tillage, considering the fact that a crop on summer-tilled land is obtained only once in two years.

At North Platte, Nebr., the seasonal precipitation has been very uniform for the three years during which experiments have been conducted, varying from 12 to 14 inches. The yield of wheat during these three years, based upon an average of 10 plats, varied from 20 to 29 bushels. We will consider briefly the cause of this fluctuation in yield.

The soil at North Platte is a silt loam of loess formation and absorbs water



readily. The season of 1906 was very wet, so that the season of 1907 opened with a good supply of moisture in the soil. Consequently, good yields were obtained in 1907, altho the influence of a rather dry spring is shown in the lower yields of the spring-plowed plat.

The fall of 1907 and the spring of 1908 at North Platte were very dry, only 3.5 inches of precipitation occurring from October 1 to May 1. In May, June, and July there was abundant rain. It is under such conditions that moisture-conservation methods become most effective. The moisture stored in the soil by conservation methods is sufficient to carry the crop thru a dry spring, and when supplemented by abundant summer rains is sufficient for the production of large crops. Thus, during 1908 a yield of 40.5 bushels was obtained from summer-tilled land as compared with 22.7 bushels from wheat sown on spring-plowed land.

#### SUMMARY OF SECRETARY WILSON'S ANNUAL REPORT

The consumer has no well-grounded complaint against the American farmer for the prices he pays for farm products.

Consumers should organize locally and make purchases directly from farmers.

Production per acre is beginning to overtake increase of population and the indications are that the gain in production will be even more rapid in the future.

At no time in the world's history has a country produced farm products within one year with a value reaching \$8,926,000,000 which is the value of the



agricultural products of this country for 1910.

A steady improvement in packing house methods is indicated.

Great improvements have been effected in the milk supplies of a number of cities.

Demonstration work among southern farmers has shown excellent results and progressive growth.

It is estimated that there are in the national forests about 15,000,000 horsepower of water that is capable of being harnessed, only an insignificant fraction of which has been controlled.

There are about 530,000,000,000 board feet of timber in the national forests, the average per acre being about 4,000 board feet.

Forest fires during the year burned over an area of 3,000,000 acres, destroying 6,000,000,000 feet of timber and doing damage roughly estimated at \$25,000,000.

#### POTATO GROWING

Your climate and soil is peculiarly well adapted to the growing of potatoes. And I understand that you are going into it on quite a scale. The North Dakota potato is the finest that goes on to the market. It is not only the summer that is favorable but also the winter being cool, the potatoes can be kept in an almost perfect condition. In the south they can not keep their potatoes for seed nor can they grow so fine a quality so they send north for their seed.

The best kind of soil to grow them on is a sandy loam tho they are being grown with good success on heavier soils. An important thing to have in the soil is humus or organic matter; this helps to loosen up even a hard soil and it holds moisture and in other ways brings about conditions that the potato likes and needs to do well. A clover sod is the finest kind of ground to grow it on. It is in an ideal condition. If it is plowed twice it will be that much better. It is also well to apply manure, but it should not be applied to the potato crop as that is apt to cause scab. Apply it to the crop grown the year before, then the manure will have been worked into the soil so as to have none of its bad effects and at the same time exert its good effects. Potatoes are not hard on the ground as they do not take much out of the soil. The cultivation given them is the very best for preparing the ground for a crop of grain, so that the following crop will be greatly increased. So that even if there is no profit in the growing of the potatoes the increase in the following crop will almost pay for the work put on potatoes.

The best way to cut the seed is by hand when one has the time. Cut the pieces to one eye. Plant in rows three to three and one-half feet apart; ten to twelve inches apart in the row. Before cutting treat the seed with formaldehyde to kill any scab germs that may be on them. In treating the seed soak them for a couple of hours in a solution made up from one pound of formaldehyde to 30 gallons of water.

To get rid of the bugs spraying with paris green is the best remedy. The solution can be improved by adding some Bordeaux mixture. This will make the paris green stick better and this mixture will kill any blight that may be floating around in the air and settling on the leaves.

To improve potatoes use the hill row method of selection. Select out a number of fine potatoes from good hills. The next year plant these potatoes where they can be kept by themselves. Dig these hills with the fork. When they are all dug compare the yield from each hill. Select out the potatoes from a half dozen hills that are the best. Save these for planting next year; a grape basket is good to use to hold the potatoes from each hill so as to keep them from getting mixed. The next year plant a short row from each hill and when digging select from the best hill as

before. In this way it is possible to improve the potatoes from year to year.

The best variety to grow has been the Early Ohio, which is a fine potato and is well known on the market. The Green Mountain did even a little better than the Early Ohio in some places this year.

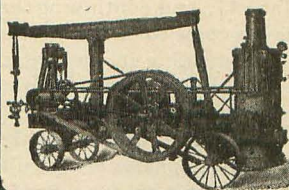
These are some of the statements made by Supt. Hoverstad at the Surry Farmers' Institute. The farmers here are beginning to grow a good deal of potatoes. He also discussed 'Soil Fertility and Education.'

He was assisted by E. H. Pierce who discussed the dairy cow and her feeding, and by W. C. Palmer who took up the subjects of clover growing, tree growing, and dry farming.

The attendance was unusually good and the interest exceptional. This western country has the cream of the farmers of Illinois, Iowa, Minnesota and Eastern North Dakota. It is a new country. The first settlers came here in 1900. It hardly seems possible that farmers could in so short a time have accomplished so much.

Music was furnished by the band. Free dinner and supper were served. Everything moved along very smoothly showing that these farmers are used to working together. O. M. Champlin presided over the meeting.

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# North Dakota Farmer

Entered as second class matter in the postoffice at  
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**PUBLISHED EVERY MONTH**

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Lisbon, N. D.

**E. F. Ladd, Editor** **FARGO, N. D.**

**BUSINESS MANAGEMENT, LISBON, N. D.**

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**Vol. 12 DECEMBER, 1910 No. 6**

## PARCELS POSTS

An opinion has been asked as to whether there would be any advantage in having a parcel post. There is no question but what great advantage and benefit would come to the people of this country. Farmers and business men, and even the men who have opposed it, would in the end be benefited by a practical parcels post. The only ones who would be injured by the working of the parcel post would be the express companies, and they seem to have had a monopoly of the transportation of small packages for a sufficient length of time, and they have become oppressive in the charges which are made, being as they are corporations for public service. By all means let Congress enact a parcel post, fixing a rate which will just pay for the transportation, and we shall see great benefit for the people of our state. But the profits of the express companies will be lessened, and this to the benefit of the people.

## MILLERS' CONVENTION

A meeting of the millers of North Dakota and western Minnesota has been called to meet in Fargo at the Agricultural College, Jan. 18 for the purpose of organizing a Millers' Association and for discussion of problems in which the millers are directly interested.

There is promise of a large attendance of the millers from the state and many valuable papers have been promised for this occasion. The experimental mill plant at the college will be open and in operation, as will also the testing laboratories, and the visitors will be given an

opportunity to see the kind of work that is being done.

A convention of this kind should result in much good to the millers of the state, bringing them closer together, and enabling them to give their experiences on many questions which would be of benefit to their brother millers. Some of the questions that are to be considered are: "The Millers and Farmers' Interests,—How Closely Allied to Purity and Type of Wheat," "Storing and Marketing," "Hedging or Option Trading in Wheat, Market Value of Wheats, Marketing," "Hedging or Option Trading in Wheat," "Market Value of Wheats," "The Millers and Farmers' Interests with Regard to Seed Wheat," "Can the Experimental Milling and Testing Laboratories be of Greater Benefit to the Millers," "The Future of Durum Wheat from the Millers' Standpoint," "Some of the Technical Difficulties Encountered by the Commercial Miller and How to Overcome the Same," "Method of Tempering Wheat with Water," "Method of Tempering Wheat with Steam," and many other topics of live interest at this time. We trust that the millers may organize a strong association for the advancement of the milling interests of North Dakota.

## GRAIN GROWERS' CONVENTION

The Tri-State Grain Growers' Convention will be held at Fargo, beginning Tuesday, Jan. 17, and continuing three days. This has come to be the most important annual meeting in the state of North Dakota. Every farmer who can should arrange to be present at some of these meetings. The ablest speakers will present various phases of agricultural subjects, and no one can afford to miss one of the meetings. The success of the Grain Growers' Convention has been due largely to the persistent efforts put forth by President Worst of the Agricultural College, who has always taken a deep interest in all matters which affected the agriculture of North Dakota. To him more than to any other person is due the credit for the wonderful success that has come in the agricultural developments of our state, and in awakening interest along more advanced lines and in the development of diversified agriculture.

## GRAIN GROWERS' CONVENTION PROGRAM

The Tri-State Grain Growers' Convention will be held at Fargo, January 17, 18, 19 and 20. The program will include some of the best talent obtainable for the northwest. No one can afford

to miss these addresses and talks. They will be both instructive and inspiring.

The program committee reports as follows:

Tuesday, Jan. 19, 10 A. M.

Invocation.

Address of Welcome—Mayor Lovell Response.

The Economic Advantages of Good Roads—Prof. R. M. Dolve, A. C.

Farm Drainage—Hon. T. R. Atkinson, State Engineer, Bismarck.

Trees on the Farm—Prof. O. A. Thompson, Supt. Edgeley Sub-station.

1:30 P. M.

Holding the Moisture on the Dry Upland—Col. Freeman Thorpe Hubert, Minn.

Agricultural Education—Hon. J. E. Chapman, Jr., Minneapolis, Minn.

Conservation of the N. D. Natural Resources—Prof. C. B. Waldron, A. C.

Corn as a Factor in Crop Production—Prof. A. B. Hess, Larimore

Tuesday, 8 P. M.

Address—Governor Burke.

What Home Economics Means to me as a Student at the Agricultural College—Miss Laura Campbell.

Some Sticking Points in Farming—Prof. M. A. Brannon, State University.

Wednesday

Livestock Day Program to be prepared by Dean J. H. Shepperd of the Agricultural College.

Thursday Forenoon

Horticultural Program, to be prepared by Prof. C. B. Waldron.

Thursday Afternoon.

Program to be prepared by J. M. Anderson, Fargo.

Thursday, 8 P. M.

Concert—A. C. Cadet band.

Address—Hon. B. F. Yoakum, Pres. Board of Directors Frisco Lines.

Annual Address—Pres. J. H. Worst, Pres. A. C.

Friday, 9:30 A. M.

Dry Farming—Ross Martin, Powers Lake, N. D.

Relation of the Experiment Station to Grain Growing—Dr. A. F. Woods, Dean A. C., University of Minn.

The Agricultural Colleges and Experiment Stations from a business Stand point—Mr. E. S. DeLancy, Valley City, N. D.

Soil Sanitation—Prof. H. L. Bolley, A. C.

Friday, 1:30 A. M.

Farming as a Business—Prof. Thomas Cooper, Minnesota A. C.

Address—Hon. James J. Hill, St. Paul, Minn.

Corn as a Factor in Crop Production—Hon. J. D. Bacon, Grand Forks.



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The Milking Machine—J. O. Perkins,  
Devils Lake, N. D.  
Friday, 8 P. M.  
The Farmers' Library—Dr. Max  
Batt, A. C.  
Alfalfa—L. B. Waldron, Supt. Dickinson  
Sub-Station.  
The Country School Problem—N. C.  
Abbott, A. C.

### STANDARD OF THE NATIONAL LAW SHOULD BE RAISED

The law is deficient in that it does not require the net weight or measure of the products, and thus permits of the sale of short weight and measure foods and beverages in competition with net weight products, and cunningly worded advertisements and oral words mislead and deceive the purchaser.

The law does not require that the true grade shall be shown, thus permitting, even in canned goods like tomatoes, of the use of a large amount of water to take the place of the well known article of food.

It does not prohibit by name even the most harmful of chemical preservatives. Why should not the national law prohibit in the terms of the statute itself such products as formaldehyde, salicylic acid, sulphurous acid and other well-known injurious preservatives? The law does not prohibit the use of that deceptive and fraudulent product saccharin or coal tar sugar, both a preservative and sweetening agent without being in any sense possessed of food value.

The law is not clear and specific with regard to the use of added foreign color.

No question has attracted more attention during the past two years, in connection with our pure food law, than the use of benzoate of soda and this because certain men, who have to do with the enforcement of the national law, have freely permitted of its use in all classes of food products, providing a statement of its presence is made upon the label. It is well known that benzoate of soda is more often used to cover up unsanitary conditions, unfit food material and conditions which should not be permitted to exist, than as a necessary preservative for foods of good quality. In other words, it is being made to do duty for the lack of proper sanitation. The controversy has gone on indirectly among officials of the national government in connection with food work, in spite of the fact that the American Medical association has protested against the use of benzoate of soda and their attitude has been endorsed by state medical associations and by leading phy-

sicians thruout the country. Certainly benzoate of soda has not been proven to be harmless, but instances are known where its presence has been injurious. Then why should the food men be given the benefit of doubt instead of the consumer?

Another feature which is receiving considerable attention and in the near future will take a prominent place in all food work is the sanitary law. More has been accomplished in North Dakota during the past year in the enforcement of the sanitary law in the way of guarding against evils and furnishing purer and better food products than in any other direction. Under the provisions of this act the department has been able to bring about changes in the carrying on and management of restaurants, bakeries, confectioneries and, above all, slaughter houses. Even the grocery men and men in other places where food products are handled are taking particular pains to see that their places stand well and receive a good score and to do this they must necessarily put everything in good shape.

Fruits and other food products are no longer exposed upon the sidewalks or in the stores unprotected from dust and flies. The delivery wagons are given more attention, but not enough is given to the question of better care in the distribution of food products so as to keep them protected from the dust and filth of the street. During the coming year the department expects to give more prominence to this line of work and will insist that food products distributed thruout the cities shall be protected in properly constructed delivery wagons or containers so that flies, insects and dust shall not come in contact with the same.

### ENZYME FLOUR

There is no end to frauds and fakes, and as soon as one is out of the way, another comes to take its place. Nitrogen peroxide as a bleaching agent is now overthrown, but in Europe, we are told, they are using what is known as "Enzyme Flour." This is to be added to the flour when it is milled so that the product will give a larger loaf of bread and a whiter loaf than where the flour has not been so treated. There is no claim that the product adds any nutritive value, or improves the quality of the product in any way.

The writer has recently seen a letter, written on what purported to be a letterhead of an American agent for this company and was signed by the same, which letter contained the following statement.

"When you add enzyme flour to

wheat you are simply adding the valuable salts contained in the husks which are of course removed from the wheat before milling and we again assure you that when you add  $\frac{1}{2}$  to 1% enzyme to ordinary flour, it is entirely impossible to discover it. You can send a sample of flour to which you have added  $\frac{1}{2}$  to 1% enzyme to any chemist you like and he will tell you that the flour is entirely pure. This, of course, makes it of much greater value to the miller.

"Enzyme flour is guaranteed to contain nothing deleterious or in any way harmful, but notwithstanding this, we believe that Dr. Wiley would be inclined to object to its use, provided he knew of it. We do not know this of course, but we are inclined to think that this would be the case. For this reason we are acting very cautiously and the concerns who are now taking it from us have it consigned in such a way as to hide its identity.

"If you export flour it will be a practical necessity very shortly to add enzyme, as the largest European millers are now using it and improving the quality of their flour immensely."

The wording of the above shows that there is doubt in their mind whether the product is a legitimate one, whether if Food Commissioners or the national authorities knew of its presence in flour, the same would not be condemned; and they hint at the fact that no chemist would be able to detect the product. They also call attention that they are acting very cautiously and are consigning it to firms now using it in such a way as to hide its identity.

Do the millers of North Dakota want to adopt and use this product after having gone thru the experiences they have had with chemical bleaching of flour? If so, we give them fair warning of the end that is sure to meet them.

Enzyme flour is a fraud; when added to flour it produces fraudulent effects. It is used for the purpose of deception and to cover up or conceal inferiority. We have been able to detect products much more difficult than enzyme flour, when added to food stuffs.

The analysis shows as follows for the composition of enzyme flour:

Moisture	5.93%
Flour (starch)	37.52%
Ammonius acid phosphate	56.54%
Calcium	Trace
Sodium	Trace
	99.79

All tests thus far have given negative results for any appreciable amount of enzyme. Further tests are to be made for any possible enzyme which may be present.—N. D. Pure Food Bulletin.



# Livestock Department

PROF. W. B. RICHARDS, Editor

## FARM AND STOCK NOTES

Comfortable animals means less feed. Milk the cows clean if you would have them milk long.

Warming ice water with food is always expensive.

Success on the farm depends upon having everything done systematically and at the proper time.

The value of manure is rated by the richness of the food fed in fertilizing elements.

The nearer you get to pure blood in breeding, the more certain you are of good results.

With the sow and her litter, the feeding should be sufficient to prevent uneasiness on account of hunger.

In the handling of sheep as of other farm animals the best feed and care yield the best profits.

The palatableness of foods is very nearly a measure of the amount that will be secured while consumption measures production.

All animals need salt regularly, but where they are fed bountifully with grain the demand for it is more imperative.

A well fed pig is a contented one, and will only take such exercise as is required for health. Thrift not hunger should prompt to exercise.

The best horse for the average farmer is the one that will do the most work in the shortest time and bring the most money when put upon the market.

The one important item in making fall pigs profitable is to keep them growing. To do this economically requires that they not only be well fed but that they be comfortably sheltered.

The man who works by a well defined plan not only works to a better advantage but is able to accomplish most. During the winter is the best time for planning and the season's work should be laid out in good time.

Cows that calve in the fall are generally in good flesh, with an abundance of strength to bear the demands of maternity, and the constant drain upon their systems to which good milking cows are subjected.

Some people have the idea that there is a peculiar method used in making granular butter, when the fact is that all butter is granular at one stage of its manufacture, but the churn is not stopped at the right time and the butter passes from the granular to the gathered or lumpy stage.

## RECORD-BREAKING MEETING

The Farmers' and Dairymen's Institute held at Grafton opened the institute season with a record-breaking attendance. The exhibit of dairy butter was largest yet brought together in the state. This meeting was in charge of T. A. Hoverstad, Superintendent of Farmers' Institutes and R. F. Flint, Dairy Commissioner. The following also took part: Col. R. A. Wilkinson, Dairyman at Lake Elmo, Minn.; Joel Winkjer, Dairy Expert, U. S. Department of Agr; G. L. Martin, Professor Dairying N. D. Agr. College; L. A. Edwards, Dairy Expert, Marion, Ind; Gabrielson, Sec. of Dairymen's Association; Per. Stromme, Editor Normanden, Grand Forks; and W. C. Palmer of the N. D. Agr. College. The meeting was opened by Mr. Flint with a discussion of the livestock problem. He questioned the farmers present why those that had stock kept their stock? The majority of opinion seemed to be that they kept the stock to clean the land. A few kept them for the profit that they brought. Another discussion was taken up on the Canada Thistle. From the experiences of the farmers this seemed to be the best way to kill this weed: to allow, them to grow till ready to seed then to plow them under and to keep the ground cultivated so that no green spear could get up to bring fresh energy to the roots. The best way to do the cultivating is by plowing. The reason for allowing the thistle to grow until it is forming the seed is that in that case it draws all the food out of its roots and so is at its weakest at that time.

Mr. Winkjer in his discussion of dairying emphasized the need of keeping up the soil fertility and that was the best way as it is constantly putting fertility back. That we would have to come to it sooner or later as the older sections have done. That there is no danger of over doing the business, as the population is increasing and as better dairy products are produced the demand for them increases.

The foods and the climate of North Dakota are especially good for the dairy cow, was the contention. He emphasized the value of the silo as a means for producing food for the dairy cow economically. Good ventilation and light are also important considerations. The Johnston Stock and Farm Company, for whom Mr. Edwards is managing the dairy business, are stocking up their

farms so as to furnish enough manure to go over their farms once in every five years. They have now over 200 cows on their farms.

Col. Wilkinson, a pioneer in the Red River Valley, a stock farmer and a dairyman gave some of his experiences. He started grain growing, as long as he made a profit at it he would not change. The productivity of the land which he had thought inexhaustible began to go down as evidenced by the decreased yields. He then turned to stock beef

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cattle to begin with and later changed to dairy cattle and these he is breeding yet, finding them the most profitable. He advised going into it on a small scale at first starting with the native cows, selecting them for dairy type as far as possible. Then to secure a sire from some of the dairy breeds. For practical purposes the third cross is as good as the full blood. For breeding they are not as good as they do not have the characters so fixed as the sire that has a long ancestry behind him, giving them prepotency. The high type animal is the one to keep when she can be given the feed and the care, as she will convert the food into milk more economically than the common animal. One of the important things to do and to do from the first is to weigh the milk and to keep records. This not only enables one to keep track of what the animal is doing but it also creates an interest in the work.

#### Evening Session at Grafton

The evening session of the farmers' institute was held in the high school building, a large number were present, many having come in on the train from the surrounding towns.

Mayor Grey made a talk in which he spoke of his experiences on the home farm in southeastern Minnesota. How three years of crop failure drove the farmers to diversifying. He thought that the same thing would happen here and that the best thing to do was to start diversifying and thus make the farm a sure thing every year. He suggested that this meeting be made an annual affair, that Grafton from its location and railroad facilities was the place for such an organization. The fact that so many from the surrounding country were in attendance would seem to indicate that this meeting is being recognized.

The children of the primary school rendered several songs that were very much appreciated.

Mr. Winkjer gave a talk on co-operation. He spoke of the primitive man that made his bow and arrow and from the skin of the animal that he shot made his own clothing and from its meat secured his food, this man did not need co-operation and did not co-operate. Today, however, we can not live to ourselves in this way; we are dependent on our fellowmen for so many things that it is necessary to co-operate. The problem is how to co-operate better. Being a dairyman he took up that end of the subject. Stating that the co-operative creamery is a profitable venture. The secret of success being to get together and to understand each other's conditions and rights, and to respect the majority rule.

Mr. Stromme, editor of the *Normanden*, of Grand Forks gave a very in-

#### ST. PAUL UNION STOCKYARD REPORT FOR NOV.

##### Comparison of Receipts and Shipments of Livestock

	Receipts						
Railroads	Cattle	Calves	Hogs	Sheep	Horses	Total Cars	
C. R. I. & P...	425	100	2533	88	.....	53	
C. G. W.....	949	95	8222	513	25	145	
C. M. & St. P.	4969	679	16909	7781	68	461	
M. & St. L....	1319	311	10799	970	.....	206	
C., St. P. M. & O.	3064	498	23671	4075	16	471	
C. B. & Q....	538	66	3443	760	.....	73	
M. St. P. & S. S. M.	9131	1811	15096	3182	.....	513	
Gt. Nor.....	20000	3655	23908	48792	26	1268	
Nor. Pac.....	12371	1477	7560	46017	352	743	
St. P. B. & T..	.....	.....	.....	.....	.....	.....	
Driven In....	931	89	897	225	.....	.....	
Total.....	53697	8781	113038	112403	487	3933	
Increase.....	.....	2646	32134	20491	201	.....	
Decrease.....	13789	.....	.....	.....	.....	254	
Jan. 1 to date	462774	117409	733486	840084	5299	32091	
Increase.....	62251	41125	72150	378965	.....	5778	
Decrease.....	.....	.....	.....	.....	199	.....	
Average Wts.	774	173	199	77	.....	.....	
	Shipments						
C. R. I. & P...	1705	117	625	3204	.....	83	
C. G. W.....	4726	442	2123	21335	36	257	
C. M. & St. P.	8017	632	23826	16772	25	547	
M. & St. L....	1593	3	1381	1953	35	79	
C. St. P. M. & O.	8516	776	825	12500	11	377	
C. B. & Q....	10876	737	138	34781	79	540	
M. St. P. & S. S. M.	1201	45	.....	11713	.....	92	
Gt. Nor.....	366	52	1771	5536	21	52	
Nor. Pac.....	432	166	6	2315	48	34	
St. P. B. & T..	.....	.....	.....	.....	.....	.....	
Driven Out..	650	250	151	253	46	.....	
Total.....	38082	3220	30846	110362	501	2061	
Increase.....	.....	1223	16721	47580	179	.....	
Decrease.....	7563	.....	.....	.....	.....	59	
Jan. 1 to date	326113	32472	165503	674287	5655	16150	
Increase.....	43201	4877	39048	355080	152	3410	
Decrease.....	.....	.....	.....	.....	.....	.....	

##### Comparison of the Origin and Disposition of Livestock

Origin of Livestock Received							
States	Cattle	Calves	Hogs	Sheep	Horses	Total Cars	
Minnesota	22942	5664	77230	14034	25	1878	
Wisconsin....	4293	936	16552	4414	34	392	
Iowa.....	120	22	1091	.....	37	25	
Far South....	.....	.....	.....	.....	.....	.....	
So. Dakota...	3150	229	6893	5738	.....	244	
No. Dakota...	15837	1362	11273	23011	113	801	
Montana.....	7297	568	.....	65206	278	591	
Far West....	.....	.....	.....	.....	.....	.....	
Manitoba & NWT	.....	.....	.....	.....	.....	.....	
Far East....	.....	.....	.....	.....	.....	.....	
Returned....	58	.....	.....	.....	.....	2	
Totals.....	53697	8781	113038	112403	487	3933	
Disposition of Livestock							
S. St. Paul Pkrs	18991	5884	82587	17625	.....	.....	
Cy & St Butch	1661	510	189	805	.....	67	
Outside P'ckrs	2765	448	25315	4636	.....	332	
Minnesota....	3634	440	1945	16579	106	217	
Iowa.....	5280	140	2412	7483	38	221	
Nebraska....	326	.....	.....	.....	.....	10	
Kans. & Mo...	273	.....	.....	109	17	9	
So. Dak.....	524	12	481	1169	.....	24	
N. Dak.....	72	.....	.....	1025	.....	10	
Mont. & West	24	11	.....	.....	21	2	
Far South....	.....	.....	.....	.....	.....	.....	
Manitoba & NWT	.....	.....	.....	.....	.....	.....	



teresting address spiced with humor and replete with trite sayings. He gave quite a number of quotations from Norwegian writers. He stated that he thought that one of the best things that came from the Farmers' Institute was that it gave the farmer inspiration for his work, made him take more pride in it, that he make a better preparation for his work, which is now one of the learned professions and that the farmers are taking more pride in themselves and in their work than formerly. He also stated that one of the things that needed to be studied more was the matter of distribution.

Farming is not the only industry of the state as the large deposits of coal will some day bring manufacturing to the state which may reach large proportions in the western part of the state. He closed by reciting one of his poems "Solsiden" The Sunny Side.

Col. Wilkinson delivered a stirring address emphasizing the importance of the farmer and that the farmer is being appreciated by the thinking men of business and manufacturing enterprises, who are realizing that they can only prosper as the farmers prosper. The change in the attitude toward the farmer is reflected in the papers which in times past pictured the farmer as a sort of backwoodsman, or hayseed as the term was used, now the farmer is being pictured as an aristocrat and as a plutocrat. The farmer was partly responsible as he looked down on his profession; when he had a boy that seemed to be good at his books he wanted him to go to town and enter a profession.

The Colonel emphasized the need of studying marketing as much as production. That co-operation must be developed, not only among the farmers but among consumers as well so as to cut out some of the manipulation between the producer and the consumer. The high cost of living is not due to the price that the farmer gets for his produce. He cited the fact that the cost of products to the consumer in New York City is more than twice what the farmers get. In fact the farmer gets from 32 to 35 per cent of what it sells for. The railroads get from 5 to 7 per cent and the middlemen get the 60 per cent, too large a charge for the service that they render. He cited the fact that the farmers who supply the Twin Cities with milk have received on an average 11 cents per gallon for milk, the consumer has paid on an average 28 cents. The cost of milking and delivering the milk to the dealer is equal to the cost of distributing the milk. Counting cost of feed and raising the cow the farmer puts in more than the dealer and yet he does not get half of the proceeds. Cooperation among the producers and consumers is the remedy.

Mich&E. Cna.	148	4	.....	.....	124	9
Chicago.....	12627	1507	107	76255	.....	807
Ills. (ex Chicago)	5820	97	397	360	100	184
Eastern Points i	3466	.....	.....	166	80	101
Returned....	58	.....	.....	.....	.....	2
Totals.....	38082	3220	30846	110362	501	2061

### Second Day of the Institute

The second day of the institute opened with a good attendance. The meeting was opened with a discussion of various topics. Prof. Palmer was introduced to speak of corn growing. He stated that one of the reasons why corn should be grown was on account of its preparing the soil in so fine shape for the following crop of grain. It has all the advantages of the bare fallow and none of its disadvantages. And had the further advantage that it furnishes a valuable crop, and the best way to prepare it for the cow is by putting it into the silo. There was also a fine display of corn that had been grown by the school children. After the talk there was a lively discussion of corn how to plant and the best way to feed it.

Mr. Gabrielson spoke of the need of taking good care of the cream as that was the only way that a butter of superior quality can be produced. If the farmer is to get the best price for the cream, it must come to the factory so that a fine quality of product can be made from it.

Mr. Cort in his remarks related the progress made by farmers in northern Minnesota, since they went into the dairy business. Eight years ago most of them worked in the lumber woods in the winter and in the North Dakota fields in the summer. Now they are independent and it has come thru the dairy cow.

Prof. Martin in his address related the experiments and records that have been kept of cows in Wisconsin, Iowa, and Illinois. The talk was illustrated by charts, bringing out the fact that the only way to know what the cows are doing is to keep records. The value of cow testing associations was also brought out. In Denmark these associations have raised the yield per cow from an average of 100 pounds of butter fat in 1884 to 215 in 1910. In Sweden from 272 pounds in 1900 to 401 in 1905.

The animal body is made up of muscle or lean meat, 12 per cent; fat 42 per cent; mineral, 3 per cent and water, 43 per cent. The foods contain enough mineral so that takes care of itself. It is the muscle and fat producing material that must be supplied in the food and in the proportions that the animal uses them. Different foods contain these in different proportions. To get the best results they must be combined in the right proportions. If the cow is to give milk she must be supplied the milk-making ingredients in the food, and in

the right proportions. The best profit comes from feeding the cow all she can eat up nicely.

Mr. Flint announced the result of the scoring as follows: creamery butter, 1st, Hans Larson, McKenzie, 93¼; 2nd, Grafton creamery, 91½; 3rd, Elmer Moker, Bowesmont, 90. Dairy butter: 1st, Wm. Dangerfield, 92½; 2nd, Miss Sadie Miller, 91. Tie for 3rd, Mrs. R. M. Kerr, Milton, 90½, Mrs. J. H. Rutherford, Hoople, 90½; 4th, Mrs. J. P. Husfloen, 90¼; 5th, John Donnelly, 90. When a creamery is to be started the farmers ought to get together, to work together, then they will make a success. If a promoter gets them started it too often happens that when he leaves the farmers know nothing about how to run it and before they know it they have run behind and that very often means failure. One of the advantages of taking the cream to the creamery is that a better price is usually secured and then when the check comes in it gives a chance to really see how much the cows are earning.

Prof. Martin discussed the samples of butter that had been sent in, calling attention to the score card, which considers the butter under the following heads: flavor, body or texture, color, salt and package, that is, the way it is packed and the neatness of its appearance.

Ye are the salt of the earth was the introduction to Mr. Gabrielson's talk. There are a great many kinds of salt; be sure that you are the right kind. It is just as patriotic to live for one's country as to die for it. The way to live for it is to make the most of your opportunity. He spoke of the pride that is taken in the land in foreign countries, that they would do everything to keep the ancestral home. He would like to see more of that here.

Supt. Hoverstad was very much pleased with the meeting. Mayor Grey expressed himself as much pleased with the attendance and interest and hoped that these meetings might continue.

Mr. Bacheller of Grand Forks was glad to see so many bringing in their produce and hoped that a number would bring butter to the meeting that will be held at Grand Forks, also that they would keep in mind the fair that is held at Grand Forks each year and to send in their produce.

This closed one of the most successful institutes that have been held and it augurs well of this year's institute season.



### THE PRICE OF BUTTER

E. K. Slater, Secretary, National Dairy Union

The discussion given to the subject of cost of living has directed more or less attention to the federal oleomargarine tax and the price of butter. People who are in favor of repealing the present oleomargarine law have taken advantage of the situation to loudly condemn as "undemocratic and un-American" this "burdensome tax on a pure, wholesome and nutritious food product."

They conveniently forget to explain that over 97% of the oleomargarine put upon the market is taxed at only one-fourth cent per pound. They do not explain that only that oleomargarine that is artificially colored is taxed at ten cents per pound.

Even if it were all taxed at ten cents per pound it would have absolutely nothing to do with the price of butter after the latter reaches thirty cents a pound retail. It costs about fourteen cents a pound to produce the very best grade of oleomargarine. Add to this a ten cent tax and the cost of production would be twenty-four cents. The product could be retailed at thirty cents at a handsome profit to manufacturer and retailer.

Looking at the question from any viewpoint it is clearly seen that the oleomargarine law has absolutely nothing to do with the price of butter.

The dairy interests of the country are not enjoying any benefit thru oleomargarine legislation except as the integrity of the industry is maintained. In this every honest citizen should feel a keen interest. He should also understand that the effort put forth by the manufacturers of oleomargarine to secure legislation which will make it easy for men to commit fraud in selling oleomargarine is not inspired by love for the "poor man who wants a cheap substitute for butter."

The whole proposition may be thus summed up: oleomargarine is now made to taste and smell something like butter. The manufacturers and a few retail dealers want the privilege of putting it upon the market so that it will look like butter, thus making it easy to commit fraud.

Every good citizen should be interested in effective pure food legislation and the oleomargarine law is just such legislation—no more, no less.

### HOUSE YOUR COWS PROPERLY

Guy E. Mitchell

How would you like to live in a house where winter rains and snows could fall

in on you, where the cold north winds could blow in between cracks in the walls and on low ground so that the water would seep in all over the floor. Not very pleasant is it? Under these conditions do you think you could get up in the morning in a fit condition to do a good day's work?

Nevertheless there are thousands of dairy farmers who house their cows in just this sort of fashion and then, after a time, when the business is a failure tell their neighbors that there is no money in the dairy business. Why? Because the cows can not under the adverse conditions, with consequent short and poorly balanced feed, produce the maximum amount of milk which they would if they were cared for properly.

Many of our farmers have developed the idea that to keep cows healthy and comfortable and to produce sanitary milk it is absolutely necessary to have expensive barns. This idea has been gathered thru some of the stories in the metropolitan magazines of farm buildings erected on the estates of the millionaire farmers. As a matter of fact many of the dairy barns where sanitation is the primary object are quite inex-

pensive. Any of the state experiment stations or the Department of Agriculture, will be glad to furnish a dairy farmer with plans of sanitary and moreover, inexpensive barns.

If wholesome and sanitary milk is to be produced the farmer should realize



Keep your horses working perfectly all the time. Don't let a Spavin, Curb, Splint, Ringbone or any Lameness stop them. Cure it quickly and safely, without leaving a scar, blemish or white hairs, by using

### Kendall's Spavin Cure

"I have used your Spavin Cure for over 25 years for treatment of horses for Sweeney, Spavins and general lameness. I believe that it has no equal. I have had a large experience with its use, and marvellous success, and most heartily recommend it as a general-purpose liniment. Respectfully,

C. K. Edwards, Los Angeles, Cal."

We have thousands of other letters like this. Price: \$1.00 a bottle; 6 for \$5.00. An excellent liniment for household use. Sold by all druggists. Ask them for free book, "Treatise on the Horse," or write to

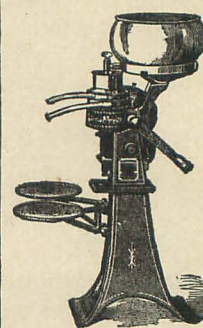
Dr. B. J. Kendall Co., Enosburg Falls, Vt.

### Whether or not you start with one Sooner or Later you will buy a DE LAVAL

because the more you come to know about cream separators the better you will understand the superiority of the DE LAVAL.

THE DE LAVAL SEPARATOR CO.

165 Broadway, NEW YORK. 42 E. Madison St., CHICAGO.



### CENTRE-LANE STOCK FARM

BREEDER OF: Black Percheron and Hambletonian Horses, Red Polled Cattle, Poland China Hogs, White P. R. Chickens, White Holland Turkeys, White Embden Geese, White Pekin Ducks and White Guinea Fowls.

GROWER OF: Minnesota No. 169, Spring Wheat, Swedish Select Oats, White Hulless and Success Beardless Barley, Turkey Red Winter Wheat, N. D. 959 Winter Rye, Northwestern Dent Corn, Early Ohio Potatoes, Timothy and Alfalfa.

Young Stock and Pure Seed, for sale. Write me for particulars.

J. A. ENGLUND, Prop.

Kenmare, North Dakota.

### THE ENVILLA STOCK FARM

COGSWELL, NORTH DAKOTA

SHETLAND PONIES. All colors, ages and sizes.

REGISTERED ANGUS CATTLE. Most popular families.

HEAVY DRAFT STALLIONS AND MARES. TWO SPANISH JACKS.

WOLF AND FOX HOUNDS that will catch and kill.

PET STOCK OF ALL KINDS.

PURE BRED POULTRY.

We can please you both in Quality and Price

L. H. WHITE, Prop.

COGSWELL, N. D.



that the cows must be kept out of the mud as much as possible. Conditions in and around the barn can, in many cases, be greatly improved by draining and grading. Draining is not of itself sufficient as the tramping of the cattle soon puddles the surface thus practically preventing the water from reaching the tiles below.

The barnyard should have a good slope such as will insure good surface drainage and should have a good top layer of gravel or cinders. In many places this may involve a great deal of work but even if the grading can not all be done in one year arrangements should be made by which at least a part of it is done every year.

### MILKING MACHINE TESTS

The subject of milking machines is one of current interest in dairying circles. The advocates of power milking are just as numerous as their opponents. Along this line the results of some Danish experiments reported to the Department of Agriculture should prove of value, since Denmark is at the top notch in dairying practice.

Four uniform lots of 10 cows and 4 heifers were used in the first season's experiments, and in the second season's experiments 4 lots of 14 head each were used.

The results of the experiments showed that nearly the same amounts of milk were, in general, obtained by either method of milking. For the aged cows, however, hand milking appeared to give a small increase over machine milking, while the opposite was true for the heifers. The chemical composition of the milk was not affected by the method of milking adopted. No special difficulty was met with in operating the machine, and the cows stood quietly during the process of milking. The great difference in the case of milking different cows and heifers by hand was found to be not nearly so pronounced by machine milking.

The results obtained indicate that one man with two machines (milking 4 cows) can do about the same work as three hand-milkers, and can milk 50 to 60 cows in 2 to 2½ hours. The bacteriological examinations of the milk showed that machine-drawn milk may have a lower bacterial content than that of milk drawn by hand if both the machine and the teats of the cow are kept scrupulously clean. Care in keeping the teats clean is especially important from the fact that bacteria in dirt adhering to the teats are likely to be sucked into the milk pail with the air and will tend largely to increase the bacterial content of the milk.

### RICE AND ITS BY-PRODUCTS AS FEEDING STUFFS

With the increase in price of corn and other feeds, and the extension of the rice-growing area in the Southern states, rice and its by-products have become of considerable importance in making up rations for livestock. It has been found by the Texas Experiment Station that rough rice as it comes from the thrashing machine when added to a ration of cotton-seed meal, cotton-seed hulls, and alfalfa hay produced slightly larger gains in weight of animals, but at an increased cost. If the rice had been worth only \$10 a ton, the cost of gain would have been the same either with or without the rice. The experience of practical farmers shows that both white and red rice are valuable feed stuffs for work horses and mules, fattening steers, dairy cows, and swine, but that the best grades of white rice are often too high in price to be so utilized. "Market your low-grade rice on the hoof," is the advice of a practical farmer who has had experience in feeding it. But it will pay to feed the higher grades to stock only in an era of low prices.

At the Texas Station rice bran in a steer ration was found inferior to cotton-seed meal. The North Carolina Station found that rice bran alone, with corn silage as a source of roughage is inferior to wheat bran, inasmuch as cows lost weight and milk on the rice ration. At the Alabama Station rice bran was not relished by hogs but it has been used successfully by feeders in other places. Owing to its deficiency in protein the Department of Agriculture recommends that rice bran should not be fed alone to growing pigs, but should be used with some supplement like skim milk or meat scrap. A ration which may be used per thousand pounds live weight of swine is, pure rice bran, 12 pounds, corn 22 pounds, skim milk 37 pounds.

Each calf added to the herd has gotten half its blood from the bull.

### A RED-POLL BREEDERS' CIRCUIT

J. A. Englund of Kenmare, writes that they want to organize a breeders' circuit in that locality on the plan now in operation in the vicinity of New Salem. He states that there are about one hundred and twenty-five head of Red-Polled cattle owned by seventeen farmers near Kenmare, and believes that there would be no trouble in organizing an association.

Mr. Englund is taking the matter up with the bureau of animal industry at Washington and also with the livestock branch of the North Dakota agricultural college, under whose supervision and aid the Holstein cir-

## CLASSIFIED ADS.

### LIVE STOCK

#### HORSES

##### FOR SALE

Percheron, Belgian and Shire horses  
J. W. & F. T. PETERSON, Litchfield, Minn.

**MEADOWBROOK STOCK FARM.** Clydesdales and Shetland Ponies, imported and home bred. Prices reasonable and terms to suit. Write or come and see me. **GEORGE LANG, Mapleton, Minn.**

#### CATTLE

Aged and young Jersey bulls also heifers for sale—thoroughbred and registered. Write for particulars. **C. E. BATCHELLER, Fingal, N. D.**

**North Branch Stock Farm.** High class Short-horns. Herd, bull Supreme Judge 177722—pure Scotch. **John Donnelly, Grafton, N. D.**

##### REGISTERED RED POLLED CATTLE

Young Stock of Both Sexes For Sale.  
**C. G. FAIT & SON, Monango, N. D.**

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#### SWINE

**POLAND CHINA PIGS,** also Shropshire sheep. Seed grain. **GEO. N. SMITH, Amenia, N. D.**

### EGGS AND POULTRY

**EGGS FOR HATCHING.** Express prepaid. \$2 per 15, from pure bred Golden Wyandottes and White Plymouth Rocks (Fishels strain.) Wyandotte stock for sale. Send for Catalog. **C. H. McGEE, McHenry, N. D.**

### MISCELLANEOUS

Envilla Stock Farm Coxsweil N. D. will quote you special prices on Angus Cattle Shetland Ponies, Duroc Jersey Hogs, Wolf and Fox Hounds, Fancy Poultry, Pet Stock and Ferrets.

**FAIRVIEW STOCK FARM.** Breeder of Short Horn Cattle, Mammoth Bronze Turkeys and B. P. Rock Chickens. Young Stock for Sale  
**F. R. HAMMOND, Prop., Bismarck, N. D.**

**FOR SALE** Six farms, joining, 6 miles from Bowbells, will be cheap. Write for particulars.  
**The Lyon Land and Loan Co., Bowbells, N. D.**

### HOLSTEIN CATTLE

THE MOST PROFITABLE DAIRY BREED

**Illustrated Descriptive Booklets Free**  
**HOLSTEIN-FRIESIAN ASSOCIATION OF AMERICA**  
F. L. HOUGHTON, Secy, BOX 135, BRATTLEBORO, VT.

### Make Your Hens Lay More Eggs

I have a method that will make your hens lay every day; it never fails. Write for it,

**MRS. B. F. WILCOXON,**  
**Hillsdale, Wyo., Dept. 5**

### Missouri Farms

Are you looking for a farm in Central Missouri? I have farms in wheat, corn and fruit belts for sale or exchange. If you are interested, write for list and full particulars. If you have something to trade, send description and tell me what you want.

**Write J. S. LUMPKIN, Eldon, Mo.**



cuit is working and hopes to secure their cooperation.

The Red-Polled cattle have about the same footing in the vicinity of Kenmare that the Holstein had near New Salem when that circuit was organized, and the commissioner is very much in hopes that the government officials will see fit to assist in the development of this breed of cattle as it would have a wonderful influence in promoting the members' interest in dairying.

#### DAIRYMEN'S ASSOCIATION

The North Dakota Dairymen's Association will hold its annual convention at Jamestown, February 8th and 9th, 1910.

An exceptionally strong programme is being arranged for and the subjects to be discussed are the ones most important to the development of the state as a whole, and the dairy interests in particular.

Creamery and farm dairy butter contests will be held in connection.

#### SOME DISEASES AND SIMPLE TREATMENT

Mrs. B. F. Wilcoxon

A description of the symptoms of the most common ailments and remedies for the prevention and cure of them.

After many years of experience I have reached a point where I believe that we can avoid poultry diseases to a very large extent. Everything about the poultry house and yards should be kept clean. The house and yards should be dry. Wet houses are worse than wet yards but both are bad enough. Disease is carried from one fowl to another.

Some of the worst diseases in the poultry yard are those that come from poor food, throwing the digestive organs out of condition. Poultry raising is a business—it calls for thought first, next action to put that thought into effect. We need good commonsense to tell us what to do. Commonsense and energy equip one well for poultry work. Every animal or plant requires the owner's best care. Air is the most essential of the three requisites for life, viz., air, water and food. A tonic such as iron, Venetian red, or a few drops of carbolic acid in the water is excellent when there is fear of an epidemic of any kind among poultry. Weakened carbolic acid kills germs and all diseases come from germs.

One should be able to judge the correct amount to feed. The condition of the food is very important. No musty or spoiled food of any kind should ever be given.

White diarrhea of chicks so dreaded by the poultryman may be caused by cold, by overheating, by over-feeding; it may be inherited; often caused by too little or too much water.

The diarrhea is merely a symptom of a severe infection of the intestines. This disease causes the downfall of hundreds of would-be poultryman annually and often baffles the skill of a veteran. Treatment should be given with the administration of Epsom salts, mixing them in a mash and estimating from 8 to 15 chicks to one teaspoonful of the salts according to age, size and previous thriftiness. The drinking water should contain sulphate of iron in the proportion of 10 grains of the copperas to 1 gallon of water or enough permanganate of potash may be added to the drinking water to give the water a claret-red color. All feeding vessels and runs should be disinfected. Before incubation, whether natural or artificial, many dip the eggs in 95% of alcohol.

Gapes or gape disease is particularly fatal to young chicks. These worms are attached to the wall of the chick's windpipe, and are with great difficulty loosened by sneezing and coughed up. Death usually results from suffocation due to obstruction of the windpipe by the large well-fed worm. There is often a peculiar stretching out of the neck and gasping for breath. These symptoms might be easily counterfeited by bronchitis, pneumonia and roup disease of larynx and windpipe. The only sure means of demonstrating the disease is to find the worm. Take a horse hair, form it in a loop or a feather, dipped in sweet oil; pass it down into the windpipe and after making a few turns with it, draw it out. In this way the worms are either withdrawn or loosened so the chicks can cough them up. I usually feed garlic in the drinking water or chopped fine in the food. This is often sufficient when a whole flock is effected. The disease spreads. Some treat fowls by fumigation, but there is more or less dangers attached if done by an inexperienced person.

Roup is a contagious inflammation of the mucus membranes of the eyes, mouth, throat and windpipe, which may express itself by a watery, sticky, bad-smelling secretion or by the development of yellowish patches. Isolate the sick birds; make a mixture of peroxide of hydrogen and distilled water, equal parts. Bath the head of the affected bird. Make a swab; dip in the mixture and wash eyes, tongue and throat of the bird, which is often found covered with yellowish matter. I have often found yellowish matter the size of a kernel covering the back of the throat. Give all birds sick or well a dose of Epsom salts and keep some good roup remedy in the drinking water.

## Harty's Barred Rocks Specials

(Either Cockerel or Pullet Mating)

EGGS \$2 for 13--\$7 for 50. Limited number from special pen \$5 for 15. Bred direct from prize winners at New York and Boston Shows.

H. C. HARTY, Bottineau, N. Dak.

## BARRED ROCKS

Choice Stock and Fair Treatment.

ROBERT B. REED

Box 2.

Amenia, N. D.

**White Crested Black Polish** Chickens, Eggs \$3.50 for 15, Chicks \$7.50 a pair.

J. R. POLLOCK, Casselton, N. D.

## Silver Wyandotte

COCKERELS \$1.00 each

Wyandotte Farm, Woods, N. D.

## Partridge Wyandottes

"Hardi-breds," A breed

which combines good laying quality with the finest table quality, to say nothing of unexcelled beauty.

My birds are from the Hadaway flock direct and among them is a son of "Boston". They are blocky, well marked and of trap-nested ancestry.

Some stock for sale at reasonable prices. Eggs: \$3 per 15 or \$5 per 30. Cash with order.

GEO. J. CHILDS, Casselton, N. D.

## HAUSMANN POULTRY FARM

Breeders of W. Wyandottes and S. C. W. Leghorns Hillsboro, - North Dakota

**EGGS** for hatching from 26 leading varieties. Bronze and W. Holland Turkeys, Pekin ducks and chickens. Catalog free. L. GULDEN, OSAKIS, MINN.

## MAMMOTH BRONZE TURKEYS

I have a few very fine toms for sale yet.

JOHN F. SIMON, Oberon, N. D.

## MAMMOTH BRONZE TURKEYS

from winning stock  
EDGEWOOD FARM, R. F. D. 2, Fargo, N. D.

## S. C. W. LEGHORNS

Prize winners' stock for sale. Eggs a specialty. GEO. A. FOWLER,  
Box 486, Casselton, N. D.

## Rose Comb Black Minorcas

Eggs for sale, \$2 for 15 eggs.

C. WYSH, CASSELTON, N. D.

## Thirty Prizes At State Show

White Barred and Buffed Rocks. First on Pens of these Farmers' Favorites White and Buff Wyandottes Eggs from Price Pens \$2.00 per 13.

H. P. COOPER, Casselton.

## Let Every Poultry Fancier ATTEND THE POULTRY SHOW

Next Month at FARGO than Run an AD. in the NORTH DAKOTA FARMER



# School and Home

## Suitable Work for Boys

By Prof. A. P. Hollis, Valley City State Normal

Probably no problem of Child Culture is of greater interest to the average parent than that of how to get boys into the habit of work. What kinds of work ought young boys to be taught to do around the home, and at what ages should they do this work?

Many a tired mother, toiling all day long to keep John in school, never seeing him only at meals, cries out in despair, "John, won't do any work." The laziness of boys and girls in the grade schools and high schools, when it comes to home help, is fast becoming one of the scandals

a finger to the pressing work of the home, or are allowed to spend vacation in idleness that frequently undoes any good habits that the routine of school may have established.

The school should not seek to absorb the whole day of the boy, and if it does, the home should assert its rights in no uncertain tone. Parents Leagues or Associations are important means of bringing the home and school together on these vital points. Such associations have been formed in connection with the Model School of the Valley City

they make one of the biggest blunders possible to an educational institution; and if parents share in this slack procedure, they can not blame all the educational failures on the schools.

Professor William McKeever of Kansas has started a crusade to arouse the teachers and parents of his state to realize the tremendous importance of the early years of boyhood for training in useful, industrious habits. He has arranged a rough schedule of work that the home ought to see that the boy does from 4 years of age to 16. I quote a few items from his schedule.

Age 4 or younger. May be taught the nature of a required duty from being sent on an occasional small errand about the house. See that he has variety with opportunities for constructiveness in his play.

Age 5. Carrying in kindlings, bringing a quart of milk from a neighbor. Some one should stay by him for days—or weeks, or months if need be—until he has acquired readiness, habit and facility in performance of the work.

Age 8. During vacation require work that should occupy daily an hour to an hour and a half. Form a habit of talking to the boy about the necessity of his learning to work so that he may become a successful man. Praise him generously for what he does.

Age 9. Two hours work a day. The time for boys to help on light house work, cleaning off dishes, etc. A few tools for garden, mason and carpenter work will be ideal.

Age 10. Repairing work, fixing shelves, handy construction work about the place.

Age 11. Pay the boy for his work. Help him to start a bank account. Be his true friend and confidant and don't forget to let him have his share of playing with other boys.

Age 14. Approaching adolescence. He fatigues easily and should not be expected to do a man's work, if he leaves school. Boys at this age and older should be made to work with industry while they work, but should have frequent holidays and allowed visiting times—otherwise they may run away from home.

The author quotes Judge Lindsay as saying to him, just as the famous judge had closed the trial of a 13-year-old boy for stealing, "This is one of our greatest problems. At the close of the school year, thousands of strong energetic boys are turned loose in this city without anything to do and many of them fall into evil acts, merely from lack of better occupation of their time. If you solve this question of employment for the growing boy during vacation, you will have performed a great service for society.

(Continued on Page 25)



A "Young Animal" Too Often Neglected

of American life. Between the lessons of the schools and the school "fringe activities" such as athletics, music, fraternities and societies—the time and energy of the school boy is totally absorbed and all forms of useful work are avoided by the up-to-date school boy.

Our Child Labor laws have secured childhood from the over-grind of selfish corporations and either selfish or needy parents. But it is carrying a good thing too far when healthy boys do not touch

State Normal School and the City Schools of Enderlin, Wimbledon, Valley City and many other cities of our state.

The most interesting series of meetings ever held at the Valley City Parents' League, were on the topic—"Occupations for our Boys and Girls."

The Criminal Classes are largely the idle classes. Busy men seldom commit crime. If the schools, having the boy for eight or twelve years, turn him out on society without habits of industry,



# Value of Rural School to the Community

Address delivered by Dean J. H. Shepperd of Agricultural College before the Northwestern Educational Association Meeting at East Grand Forks, December 10, 1910

I have consulted statistics and find that I am safe in saying that the rural school houses which dot this fair state, furnish the fundamental education to more than one-half of the school population of this commonwealth.

In the rural school more than one-half of the rising generation receives stimulating impulses or the lack of them that last for life—which make good, bad or indifferent citizens of them as the case may be.

I have asked many successful men what brought them the ambition, what gave them the incentive which led them to take this or that eminently successful course of life and it has always brought out the same answer—some individual kindled the spark which sent them forward, such and such a friend turned them in their course, encouraged them, showed them the evil of their life and in some fashion changed their life current. The rural school makes an indelible impression on the mind of the youth who attends it.

I can see it all today as I look back at my own experience, the games, the spelling classes, the readers, arithmetic, the geography for the older pupils and physiology and grammar (my, how hard they looked and really were as given) which the ambitious student, who hoped to try for a teacher's certificate some day, studied. How receptive the mind of the country boy or girl—how alert, how ready for entertainment, how easily interested in the subject presented if only common sense and tact are used in the presentation.

I well remember the time when I remembered the face of every person I met that I had not seen before. Not only that I could tell where I had seen the individual before, whether walking or riding, whether in a wagon or carriage, what kind of a team he drove and many other minor incidents and details which occurred. We were hungry for new things. Our minds were whetted to a wise edge for excitement, information and stories. Scarcely a child in our school but knew and could repeat the best stories in every reader before he came to it himself simply by hearing the older people recite them.

What more fertile field for kindling ambition, for stirring pride, and strong resolution can be found? The glamor of the shop windows, the passing of innumerable conveyances, the meeting of a stream if not a sea of faces of faces daily has not occurred dull to the powers of observation of rural youths. The

selfreliance, the putting of two and two together to learn how to get out of a tight place with a team, a broken bob sled or what not has taught the power of initiative and selfreliance. The rural pupil is the ideal material for the school's influence.

The late J. P. Dolliver says that nearly all of our great men walked in America into town from the country and I believe that Minnesota statistics will back up his statement.

I am told that Theodore Roosevelt in traveling thru the state of Minnesota surrounded by a dozen of prominent men of this nation, saw a barefooted boy on a frosty morning of early fall kick a cow to make her get up and then stepped into the warm place to bring the heat back to his bare feet. Mr. Roosevelt turned to his travelling companions and said, how many of you know what that boy is doing and every man of them said, "I've been there myself."

The rural pupil is then acute, alert, receptive minded with a keen edge for his work.

How about the school room facilities, the teacher and the course of study? Most of them attend a one-room school. It has little systematic gradation, many classes and offers no chance for specialization or special fitness in the teacher.



**"The Consolidated School will Change all of that, I believe."**

The consolidated school will change all of that I believe. The teacher, owing to the meager compensation, short year of employment and in some cases uncongeniality of her location is usually one who is using it as a preparation for work in village or city schools where facilities, time of employment and compensation are greater. The short year

of training given the rural school population of your state is used as a stepping stone, as a trying out field for the preparation of teachers for the other half of your children. Instead of giving the country child a special training for his duties in life, she apes the city plan as best she can and works on in the hope of a change to city or village school employment. Despite this lamentable fact there seems to be no one to challenge Senator Dolliver's statement that the prominent men of America walked into town from the country notwithstanding the handicap of having had a high school girl as a teacher who was trying to learn her business thru experimenting on himself in all the grades of work in a single room and with no apparatus or illustrative material.

Mr. Chairman, the rural school is not only important to the rural community, but it is the school attended by the nation's leaders. It is America's training school for statesmen according to the pages of history.

How much we have had to unlearn of what this weak and overworked rural teacher taught us.

The rural school should be, can be, and is, largely, the center of community interests. It is the only public assembly hall in the neighborhood. The smaller villages have their town hall and churches, many of them one or more lodge rooms and other assembly places of a public or semi-public nature, but the rural community has but one hall for all purposes, religious, political social and educational. It constitutes a natural and geographical center of no mean importance. It offers a splendid point of contact for extension among the residents of the farming community. It can easily be made a meeting place, the farmers' club, a night school, seed corn contests and other pleasant and profitable features of rivalry.

Scores of lessons can be taught and illustrated in this rural center if the school is provided with a suitable leader in the person of the teacher.

Long ago we were cautioned against setting the blind to lead the blind, least both fall into the ditch, and here we are face to face with that problem.

The rural school is surrounded by a neighborhood of people who have abundant time to think, who need social entertainment, who can take time to attend public gatherings during five months of the winter season and who would greatly profit by and appreciate

*(Continued on Page 25)*



## A Half Hour with Mark Twain

### Mark Twain on the Potato

"Among the many pranks of Mark Twain's journalistic days," said a Virginia City editor, "was the concoction of a speech that was put upon a famous Senator.

The Senator had attended a Virginia City banquet, but had not spoken. He had a sore throat. A brother from a rival paper reached the banquet late.

"What did the Senator speak about?" the newcomer whispered to Mark Twain.

"He made a very interesting speech on the potato," was the reply.

"The potato, eh? That's odd. Let's have the points, will you?"

editorial duties with the Virginia City Enterprise was this:

"A beautiful sunset made Beranger a poet, a mother's kiss made Benjamin West an artist, and fifteen dollars a week makes us a journalist."

### "The Innocents Abroad"

The American Publishing Company, to whom "The Innocents Abroad" was offered, had made a specialty of subscription books. Mr. Elisha Bliss, the head of the firm, signed a contract to produce Mark Twain's "Innocents Abroad," but on seeking the approval of his board of directors, met with opposition. The directors fancied that the



A Disciple of Mark Twain.

"With pleasure," said Mark Twain, and he dictated a half-column that the reporter duly printed the next morning as the distinguished Senator's valuable contribution to agricultural science. The speech began like this:

"Ladies and gentlemen, had it been my lot to be born and reared in Ireland, where my food would have principally consisted of the potato—that most salubrious and nutritious root—I should now be, instead of the poor, infirm, stunted creature you see before you, a tall, stout, athletic man able to carry an enormous weight."

### Mark Twain's First Editorial

It is said that the first paragraph Mark Twain wrote when he began his

humorous qualities of Mark Twain's style would interfere with the sale of the work as a book of travel, and it was only at Mr. Bliss's avowal of faith in the author and a personal offer to take over the company's contract that the work proceeded.

### Heredity

Mark Twain's mother had a drawl. When he lectured in the theatre of the town she called the neighbors' attention to the fact that "Sam had a mighty long drawl to his talk and she wondered where in the world he got it?" A farmer remarked, "If the dam is a pacer you will likely find an amble in the colt."

### Mark Twain and the Watermelon

Mark Twain was quite at his best as

an after-dinner speaker at the banquet given in his honor, a few years ago, by the members of the Authors' Club. Incidentally, he told his amused listeners the story of his first lapse from the paths of honesty. He was very young at the time, he explained, and the day was an exceedingly hot one. As he walked down the street of the village in which he was living he saw a cart loaded with melons of most attractive appearance.

"It is with regret I mention," Mark Twain went on, with a humorous twinkle in his eyes, "that I was tempted and I fell. I grabbed the most likely looking melon of the lot and hurriedly made my way to the back of the woodshed. I gouged a huge slice out of it and bit it. No sooner had I done so than something within me convinced me that I had done wrong. A voice seemed to say, 'Mark, get up and take that melon right back to where you got it from.' It was about the greenest melon I have ever tasted. I went back to the cart and carefully replaced it and—took a ripe one in its place."

### Mark Twain's Methods of Work

To a question on one occasion as to his methods of work Mark Twain replied: "I work very regularly when I work at all. I work every day and all day from after breakfast till late into the night until the work is finished. I never begin to work before eleven in the morning, and I sit at it till they pull me away from the table to dress for dinner at seven at night. They make me stop then for a while, as they think I might overwork myself, but I don't think there is any fear of that. The mere physical work would not hurt me or any one else; you can sleep that off. The mental part of it is nothing but amusement; it's not work."

### Mark Twain's Most Quoted Witticism

Of all the witty things said or written by Mark Twain, no phrase has been quoted oftener than his reply to an alarmist report, "Rumor of my death greatly exaggerated." I think the history of this *bon mot* (says a correspondent) may interest. Mark Twain was on a visit to London some years ago, and had been secured as the chief guest of a dinner to be given by a literary club. On the morning of the day when the dinner was to take place the secretary was shocked to hear a rumor that Mark Twain had died suddenly. At his wit's end, he sought to verify it by a diplomatic note to Mrs. Clemens, in which he mentioned the rumor. Mark Twain got hold of the note and telegraphed the now-famous reply, "Rumor of my death greatly exaggerated."

### When Mark Twain Met the King

Mark Twain used to tell that while he was in England his head was once taxed—he believed as gas-works. He wrote Queen Victoria a friendly letter of pro-



test. He said: "I don't know you, but I've met your son. He was at the head of a procession in the Strand, and I was on a 'bus.' Years afterward he met the Prince of Wales at Hamburg. They had a long walk and talk together. When bidding him good-bye the Prince said, 'I am glad to have met you again.' This remark troubled Mark Twain, who feared that he had been mistaken for some one else, perhaps Bishop Potter. He communicated this suspicion to the Prince, who replied, 'Why, don't you remember when you met me in the Strand, and I was at the head of a procession and you were on a 'bus?'"

#### "I Believe They Call Him Mark Twain"

The following story comes from York Harbor, Maine: "Say, yer know thet literary chap thet hed the Furness cottage up on the hill, two years ago last summer—Mark Twain, I b'lieve they called 'im. Gee! ye'd never think ter look at 'im thet he could write books!"

"Wal, he uster come over ter my house an' set fer hours to a time while I spun yarns an' told 'im abaout York folks an' things. Seemed ter be reel sociable like—liked ter smoke an' talk, an' joke with an' old fool like me.

"Wal, one day he come ter me lookin' kind o' worried like, an' his hair was all ruffled up like he'd been out in a stiff nor'easter, an' he sez, 'Cap'n Brooks, can you tell me if there is an osteopath at the Harbor?' 'Wal, sez I, 'the' mebbe, but I ain't never ketched one on 'em an' I've been fishin' here nigh onter forty years'. He looked at me kind o' queer, an' then sed he guessed he'd go up ter the drug-store an' enquire.

"Wal, I went home an' told the old woman abaout it an' she sez, 'You big fool, Jed Brooks, 'tain't no fish; 'tis a bird.' So then I went inter the best room an' took daown the cyclopedium my boy Steve hed when he was ter Harvard College, an' I'll be durned if it want no fish at all, nor no bird neither, but a new-fangled kind of a doctor!"

#### ENGLAND BUYS IRISH FARM PRODUCTS

No factor will have such an influence in overcoming the Irish question with England as the growing dependence of the mother country on Irish farm products. It appears that Ireland is rapidly becoming the granary of the United Kingdom. During 1909 she shipped more cattle into the mainland than all other countries combined, while Irish farmers sold the United Kingdom over \$31,000,000 worth of butter and eggs, poultry to the value of \$4,100,000 and hams and bacon, \$16,800,000.

## "ENTERPRISE"

### Meat and Food Chopper



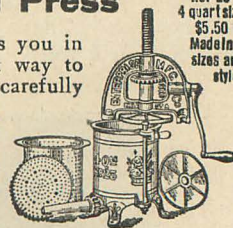
Turns scraps and left-overs into most savory dishes. The "Enterprise" is the only meat and food chopper that actually *cuts* the meat, fish, vegetables, fruits, etc., without crushing or mangling. The four-bladed steel knife revolving against a perforated steel plate does the actual cutting. The "Enterprise" has the fewest parts, is easily cleaned, cannot rust, and is practically unbreakable.

We make 45 sizes and styles of "Enterprise" Meat and Food Choppers—illustrated catalogue on request.

## "ENTERPRISE"

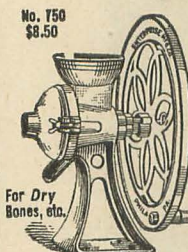
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## "ENTERPRISE"

### Bone, Shell and Corn Mill



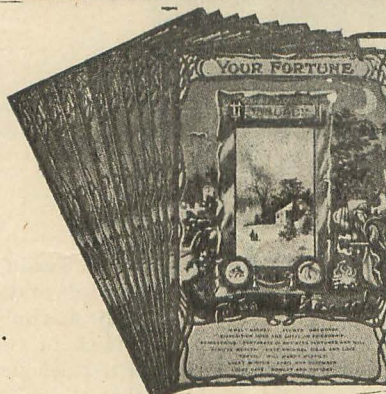
This winter feed your hens on bone, shell and corn ground in an "Enterprise" mill and note the big increase in the egg supply.

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Dept. D, FARM AND FIRESIDE, Springfield, Ohio



## VALUE OF RURAL SCHOOL TO THE COMMUNITY

(Continued from Page 22)

the services of a good leader. It is indeed a great field for education and I feel that we can say in the language of Scripture that the harvest is ripe indeed, but that the competent teachers are few and at present the means for compensating the teacher are too meagre to expect to command the services of one who can do the work.

I cannot close without further emphasizing the importance of having a competent, sympathetic, active teacher. I verily believe that if the country boy

pendent thought even tho brought in contact with the pupils for but a few hours a day for only a few months in the year, will give the development and results that we want.

It is that capable stimulating power which will develop our youth rather than long strict severe grinding and no teacher or leader who is not in sympathy with the activities and the ideals of the rural people he serves, as a leader or teacher and no one who falls short of being well-informed can hope to bring a



"The Rural Youth is Standing on Tip-toe with Alert, Active Mind, Awaiting the Influence of the Teacher."

and girl could have a good teacher for a six month's term of school with as good facilities and gradation of the work as that of the city school, even if the instruction was not adapted to his life work and needs that he would be as far ahead in mind development and mental capacity at a given age as the city cousin will be with his training.

The consolidated rural school with supplemented funds will, I believe, bring about this result. The teacher who can inculcate true principles, that will arouse ambition and stimulate inde-

rural school district to realization of its needs and to a co-operative effort to secure the uplift which it so clearly needs and will welcome.

The rural youth is standing on tip-toe with alert, active mind, awaiting the influence of the teacher. The rural has five months of the twelve when it craves social intercourse, education and mind improvement. It has but one public center, the rural school. The question that we face is how can we supply proper facilities and a suitable instructional and leading force.

## SUITABLE WORK FOR BOYS

(Continued from Page 21)

In this connection it may be stated that vacation schools have come to stay. The six weeks' vacation school conducted by the Model School of the Valley City State Normal School, holds half day sessions during the summer and it is doing a useful service for many children that might otherwise listlessly and idly roam the city streets

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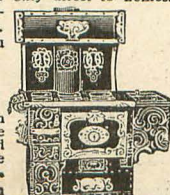
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## Seasonable Receipts

### BAKED PORK STEAK OR CHOPS

Take 2 pounds of pork steak or chops, rolled in egg and cracker crumbs. Season with salt, pepper and onion; pour boiling hot water over this, enough to cover the meat. Put in oven and bake from twenty to thirty minutes. Veal steak is nice prepared the same way.

### SALMON LOAF

One can of salmon, 2 eggs, salt and pepper,  $\frac{1}{2}$  cupful crackers, rolled, butter the size of a walnut. Remove bones from salmon, pick fine. Mix ingredients together in a loaf and steam 1 hour.

### STEAMED CORN BREAD

Two cupfuls buttermilk, 3 cupfuls cornmeal, 1 cupful flour, 1 egg, piece of butter the size of an egg, a small  $\frac{1}{2}$  cupful of sugar, a rounded teaspoonful of soda, and a heaping teaspoonful of salt. Steam for 3 hours, having the water boiling when you put the bread on to steam.

### SNAPPY GINGER SNAPS

Melt together one cupful of lard (or butter and lard in equal quantities), 1 cupful of molasses and  $\frac{1}{2}$  cupful of boiling water. Add 1 tablespoonful each of salt and ginger,  $\frac{1}{4}$  of a teaspoonful of black pepper and 1 cupful of sugar. Sift 1 level teaspoonful of soda with 1 cupful of flour and stir into the cake mixture, adding as much flour as required to make a moderately stiff dough that can be rolled without kneading. Bake in a quick oven on greased tins.

### ONE EGG CAKE

A good foundation for layer cake is made by creaming 1 cupful of sugar with butter the size of a small egg. Whip 1 egg very light, add to the sugar with 1 cupful of ice water, beat thoroly and set aside while sifting three times 2 level cupfuls of flour with a pinch of salt and 2 rounded teaspoonfuls of baking powder. Stir into the batter lightly and bake in a moderate oven.

### TO KEEP THE HANDS SMOOTH

Mix 1 part ammonia and 3 parts glycerine. Or 3 parts glycerine and 1 part bay rum with a few drops carbolic acid.

### GOOD THINGS FOR CHRISTMAS

#### Fudge

Two cupfuls granulated sugar,  $\frac{1}{4}$  cupful cream, 2 squares chocolate, 1 teaspoonful butter. Boil 7 minutes, then beat and spread in buttered tins to cool. Two cupfuls of brown sugar,  $\frac{1}{2}$  cupful cream, 1 teaspoonful vanilla, 1 cupful chopped walnuts, butter size of an egg. Boil 10 minutes, then beat and pour on top of fudge already in pan.

### Molasses Candy

One cupful molasses, 2 cupfuls sugar, 1 teaspoonful vinegar; vanilla to taste. Small piece of butter; boil 10 minutes, then cool enough to pull. Pull!

### A GOOD WAY TO POP CORN

Put lard and salt in a heavy iron kettle; heat very hot and put in a cupful of good dry corn. Use a pastboard over the top of the kettle with a stick thru and stir constantly. This pops fine.

### TOP NOTCH BUTTER SCOTCH

A better butter Scotch than you ever tasted. Better because it is nutritious as well as delicious.

One cupful karo corn syrup, 1 cupful granulated sugar,  $\frac{1}{2}$  cupful butter. Boil until a small quantity dropped in cold water becomes hard and snappy. Do not stir while boiling. Add butter just before candy is done.

### Coated Nuts

Two cupfuls of granulated sugar,  $\frac{1}{2}$  cupful of water. Let simmer on a slow flame until it strings. Flavor with vanilla and pour over shelled nuts on a greased platter.

### TO COOK CABBAGE

Cabbage may be cooked in very little water, and to most persons is even more palatable than when cooked in a large quantity of water. To cook cabbage in this way, cut into moderately small pieces, and put to cook in a closely covered vessel containing just boiling water enough to prevent burning. When boiling rapidly, draw to a cooler portion of the range, and let cook slowly until tender. Season with salt, pepper, and butter, and serve. Cabbage will be cooked by steaming in about the same length of time as by boiling.

### TO BOIL A LEG OF MUTTON

Remove the outer skin, as this often gives an unpleasant flavor. Be careful not to cut the meat while peeling off the outer covering. See that the meat is clean, then sear the cut surfaces on a hot spider. Have boiling in the kettle a quart or three pints of water. Plunge the joint into it, and cover closely, allowing the steam to help in the cooking. Add enough water so that the meat will not burn, and there will be just enough left to make the sauce. Set the kettle over a hot fire until the water boils, then move to where it will keep near the boiling point, but will not boil hard. Boiled meats should be salted half an hour before removing from fire.

### TO COOK A POT ROAST OF BEEF

Choose a cut which is too tough for an oven roast. The crossrib cut is usually so. Sear the cut surfaces, and stew in a

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very little water until tender. Then let the water cook entirely out, and brown the meat in the kettle.

#### SUET PUDDING

Three teaspoonfuls of baking powder, 1 cupful chopped suet, 1 cupful raisins, 1 cupful molasses, 1 cupful sweet milk, 4 cupfuls flour, one-eighth teaspoonful soda (for the molasses). Steam three hours.

#### DESTRUCTION OF ENGLISH SPARROWS

##### Baiting

Preliminary to the following destructive measures, sparrows should be baited until they are attached to the spot selected for their execution. Seeds, grain, or waste from the table, if supplied regularly, will soon establish a feeding place. If a general campaign is to be undertaken, enough such feeding places should be maintained to attract to them practically all the English sparrows in the neighborhood. This can easily be done in winter when food is scarce. After thus baiting the sparrows they may be trapped, shot, or poisoned.

##### Trapping

Traps alone are inadequate to exterminate sparrows, but a reduction of numbers can be effected by using a shallow box not less than 4 feet square, open on one side and covered with woven wire on the other. One side of this trap rests on the ground, while the opposite side is supported by a stick 18 inches long. Near the upper end of this stick is attached a long cord, and between the top of it and the edge of the trap is placed a chip. By setting the trap over bait and pulling the cord from a sheltered point of observation when a flock of sparrows is beneath it, numbers of them may be caught. Instead of the box described above, by which the birds are taken alive, an old door or similar device may be employed as a deadfall. In either case the trap should be kept set and baited until the sparrows are not afraid to go under it. The best time for trapping is just after a snowstorm, when the birds have been fasting. Then, if the ground be cleared and chaff and grain be put under the trap, the birds will crowd in and enable the trapper to cure nearly all of the local flock. If any escape they will spread the fear of traps, and before long very few of the birds can be induced to go into one.

##### Shooting

Sparrows are accustomed to feed in close flocks, and when thus assembled a large number can be killed by a charge of No. 10 shot. The best way is to scatter grain over long, narrow areas and shoot the sparrows at these baiting places. Where sparrows infest poultry yards, the bait may be placed on a horizontal board, supported at such an

elevation that the birds can be shot without danger to the poultry.

#### Utilization of Sparrows for Food

Since English sparrows are a pest and a reduction of their numbers is important on economic grounds, there would seem to be no reason why the birds, when trapped or shot, should not be utilized for food in this country, as they have been in the Old World for centuries. Their flesh is palatable and nutritious, and in city restaurants they are often served under the name of reed birds.

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## HOME DRESSMAKING



Mixed suiting is pictured in No. 3300. It is cut in sizes 6, 8, 10, 12 and 14 years. Ten year size calls for  $2\frac{1}{4}$  yards of 54 inch goods or  $4\frac{1}{2}$  yards if it is 36 inches wide. Price 15 cents.

Another little dress that shows style features of the moment is No. 3309 with its panel front and side-plaited flounce. The mode is portrayed in red and white striped flannel with bias bands of red silk and buttons covered with the silk for relief. Sizes 6, 8, 10 and 12 years. Size 8 requires 3 yards of 42 inch fabric or  $3\frac{3}{4}$  yards, 27 inches wide. Price 15 cents.

Fine checked cashmere is pictured in this view of No. 3301, price of which is 10 cents. Cut in sizes 1, 2, 4 and 6 years. Size 4 requires about  $2\frac{1}{4}$  yards of 42 inch material, or,  $2\frac{3}{4}$  yards of 27 inch goods.

An excellent design for a loose coat that almost covers the dress is illustrated in the next figure No. 3311, and the material deep red broadcloth with opossum skin shawl collar and turned back cuffs. Sizes 6, 8, 10 and 12 years. Size 8 requires two and one-eighth yards of 54 inch goods. Price 15 cents.

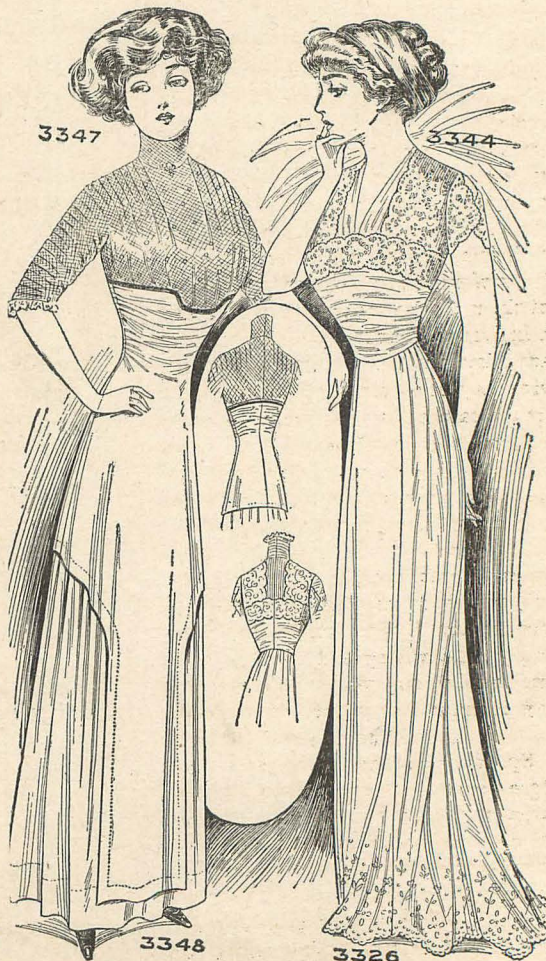
No. 3296 is an attractive design here shown in a make-up of tan French serge with accessories of seal brown taffeta. A chemisette or shield of batiste all over is worn. Cut in sizes 6, 8, 10 and 12 years. Size 8 requires about 4 yards of 36 inch material, or  $2\frac{3}{4}$  yards of 42 inch. Price 15 cents including Cutting and Construction Guides.

Pictorial Review Pattern No. 3347. Ladies' tucked waist with lining. High neck and long sleeves: perforated for low neck and short sleeves. Sizes 32, 34, 36, 38 and 40 inches bust measure. Price 15 cents.

Pictorial Review Pattern No. 3348. Ladies' skirt, having a seven-gored princess lining with attached circular gathered flounce and overskirt with girdle effect. Sizes 22, 24, 26, 28 and 30 inches waist measure. Price, including Cutting and Construction Guides, 15 cents. Entire costume in medium size requires  $8\frac{3}{4}$  yards 44 inch material.

Pictorial Review Pattern No. 3334. Ladies' waist, with body lining. High or low neck. Two-seamed sleeves with sleeve caps having one or two scoops and deep girdle. Suitable for evening wear. Sizes 32, 34, 36, 38 and 40 inches bust measure. Price, including Cutting and Construction Guides, 15 cents.

Pictorial Review Pattern No. 3326. Ladies' five-gored skirt, with gathered side and back gores. In sweep or regulation length. Sizes 22, 24, 26 and 28 inches waist measure. Price, 15 cents. Entire costume in medium size requires  $8\frac{1}{4}$  yards 27 inch material, 2 yards 18 inch embroidery,  $1\frac{1}{4}$  yards banding and 1 yard 36 inch lining.



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## Elementary Agriculture

McNeal, C. James, Editor

### Irish Potato

Like corn, the common white or Irish potato is a native of the New World, but unlike corn it is more commonly grown in the Old World. In number of bushels or number of pounds, potatoes lead in the world's crop. In 1908 the world's potato crop was 4,927,576,000 bushels, while the corn crop, next in yield, was 3,478,328,000 bushels. This vast yield of potatoes is produced in Europe mainly. The yields in bushels of some of the leading potato-growing countries for 1908 are as follows:

Germany	1,702,800,000.
Russia proper	682,400,000.
Austria	475,800,000.
France	375,000,000.
Gt. Brit'n & Irel'd	265,700,000.
United States	278,900,000.

Ireland with an area of 32,500 square miles grows 119,455,000 bushels compared with the United States with an area of 3,075,000 square miles and a yield of 278,985,000 bushels. In other words, the United States raises only 2½% as many potatoes per area as Ireland. The large quantity of potatoes grown is due to several things, a few of which are:

1. It will grow in many different types of soil and thru a wide range of climate.
2. It yields a large amount of food per acre.
3. It is a very palatable and wholesome food for man.
4. It is easily prepared for the table.

The potato grows best in a rich, sandy, loam soil, where the weather is not too hot during the growing season. These conditions are found in many parts of our northern tier of states, and prevail in North Dakota. Hence we find potatoes grown in these states more as a field crop, than they are farther south, where they are mainly grown as a truck crop. Another reason why they should be grown as a field crop in this state is the fact that like corn, it fits well in a rotation of crops.

The ground should be well-plowed and cultivated before planting the potato. It should then be harrowed a few times before the potatoes come thru the ground. This will save moisture and kill weeds. After they are up they should receive thoro cultivation.

Seed potatoes should be kept in a dark room at a temperature a little above freezing, during the winter. They should be fairly good-sized and should be cut into four pieces usually. The cuts should be made length-wise. Cutting into two pieces often gives larger yields, but this does not pay when seed

is high-priced. They should be planted in rows about three feet six inches apart and be placed from twelve to fifteen inches apart in the rows. A covering of two inches is sufficient.

If there is any danger of scab the seed should be treated with formaldehyde solution made of about 1 pound of formaldehyde to thirty gallons of water. After potatoes are up they must be carefully watched so that they will not be injured by the Colorado potato beetle. If these beetles appear the potatoes should be sprayed with Paris Green, about five ounces to fifty gallons of water. It should be applied in the form of a spray.

### Selection and Care of Seeds for Planting

There are two main characteristics which seeds that are to be planted should possess; these are purity and vitality. By the first we mean that it should be free from all weed seeds, seeds of other grains, broken straw or weeds, chaff, particles of soil, or any other foreign matter. The most injurious of any of these adulterants are the injurious weed seeds.

By vitality is meant the power of the seed to grow vigorously. Many times a large per cent of seeds that are sown will not grow and for this reason all seeds should be tested for their powers of germination before planting. Those

things which affect the vitality of seeds are:

1. Time of harvesting. The grain should be fairly ripe before it is harvested.
2. Condition of weather at maturity. If heavy rains come the seed sometimes begins to sprout, which injures it for seed. Early frosts often injure the germinating powers of some of the cereal grains as corn.
3. Method of storing. The grain should always be kept in a good dry place. If it gets wet, heating in the bin follows, which kills the germ. If the seeds are not dry when stored the same results will follow. Corn is very liable to injury from early freezing unless quite dry at time of storing.
4. The character of the parent plant. A strong growing plant will usually produce stronger seed than a weak plant.
5. The size of the seed. Plump seeds fairly large for the variety are more likely to possess strong vitality than small shriveled ones.
6. The age of seeds has much to do with its vitality. For example: millet or flax will not grow well after it is two years old, while pumpkin, squash or beet seed will be good for four or five years. In order then to have good seed to sow we should give attention to these things.

Besides the qualities named above, seeds should be as free as possible from smuts and other plant diseases. It is usually best to give the formaldehyde treatment especially to the cereal crop seeds.



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# OILS, PAINTS, AND PAINT PIGMENTS

## WARNING ON PAINTS

### South Dakota Commissioner Says Products Not Properly Labeled Must Be Disposed Of

Dr. Alfred N. Cook, food and drug commissioner and state chemist of South Dakota, in a recently issued circular, advises all dealers in paints have old stock on hand to make a special effort to dispose of it, as a date will soon be set before which all old stock not labeled according to law must be disposed of. In the same circular he issues a warning to dealers to be careful to purchase only pure linseed oil. The circular is as follows:

To Dealers in Paints and Linseed Oils:

#### Paints

In our inspection trips thruout the state it is very plainly evident that there is a considerable amount of old stock of paints still on hand on the shelves of the vast majority of dealers. We have therefore made no rulings with regard to this old stock, in consideration of its value to the dealer, since all of the paints now coming into the state, with very few exceptions are labeled according to law. In view of our considerate attitude in the matter, however, I fear that some dealers are not making sufficient effort to dispose of old stock, and are not exercising due caution in obtaining paints which are labeled according to law, hence, notice is hereby given that a date will soon be set before which all old stock not labeled according to law must be disposed of by sale or otherwise. I advise, therefore, that all dealers having old stock make special effort to dispose of the same by placing it in a conspicuous place and offering it for sale at a liberal discount. It is possible that much of this old stock is not up to grade and was purchased at a moderate price and the dealer can well afford, from a financial standpoint, to offer special bargains on the same in order to clear it up.

I desire to give notice also that the commissioner will recommend prosecution of parties who are found offering for sale paints not labeled according to law which are received after January 1, 1911.

#### Linseed Oil

Since the use of pure linseed oil is of so great importance in the mixing of paints, I wish to warn dealers to be careful to purchase only pure oil. Four dealers have been fined \$50.00 and costs, up to date, for dealing in adulterated oil. We are continually testing linseed oils, in the field and laboratory, and parties found selling adulterated oil will be recommended for prosecution. We are always glad to test linseed oil for dealers or private parties without cost. If you

wish us to test your oil, send one-half pint by express and write us, giving the name of the manufacturer or wholesaler.

Alfred N. Cook,

Food and Drug Commissioner.

Vermillion, S. D., November 25, 1910.

## MIXED PAINTS MAY GO NO HIGHER

The uncertain condition of the linseed oil market several weeks ago made it seem probable that paint manufacturers would be forced to make still another advance in the wholesale prices of ready mixed paints, and indeed one manufacturer did seriously consider an advance to \$1.85 a gallon.

However, the linseed oil market has become more settled, altho prices have not greatly receded, being still close to one dollar a gallon.

Most of the manufacturers are said to have supplied themselves with oil sufficient for their requirements of this season, and in view of all these circumstances it is now stated that a further advance seems improbable.

The fact that several manufacturers in the Northwest territory are now booking orders for spring delivery at the existing prices is an indication that no further advance is contemplated.

There are some paint manufacturers who were not so fortunate as to purchase linseed oil at anywhere near a reasonable figure, and doubtless they will lose money. There are others, tho, it is said, who filled their requirements at a price so low that they will be able to make a good profit off the next season's business.

Paint manufacturers are preparing for the spring trade. Their advice to retail merchants in regard to retail selling prices will be \$2.50 a gallon. Under no circumstances should paint be sold at less than \$2.25 a gallon at the existing high wholesale prices.—Hardware Trade

## ADULTERATED LINSEED OIL

By C. M. Durbin

Much has been written regarding the adulteration of linseed oil, but notwithstanding this the amount of such oil used today is perhaps greater than ever before. The advance in the price of Linseed oil and the desire of the dealer and consumer to purchase their supplies at the lowest possible figure affords an unusual temptation that the dopest is unable to resist.

Linseed oil cannot be adulterated in any way without injury, but the worst feature of the adulterated oils found on the market today is that cheap petroleum products are invariably used for

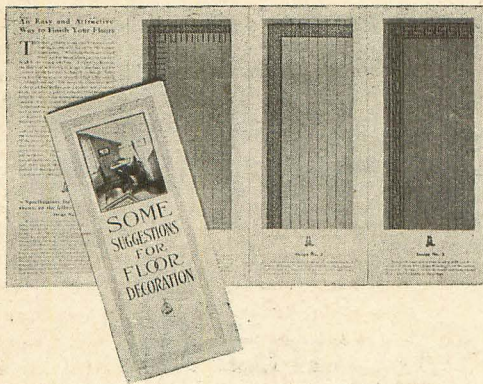
this purpose which possess no value whatever as paint vehicles, and every gallon of such dope that is put into a barrel of linseed oil not only decreases the quantity of real linseed oil to this extent, but seriously interferes with the natural working properties of the oil with which it is combined. Where the oil is adulterated with a cheap grade of naphtha or some similar product much of the adulterant, being of a volatile nature, evaporates when applied to a surface, thus producing a much thinner film, consequently the consumer is really getting but little more than the actual value of the linseed oil itself. Much more dangerous adulterants are the cheap oils which form a sort of by-product from mineral oils, for they do not possess any drying qualities, but, on the other hand, are of a greasy nature and only a thin film forms over the coating, the greasy nature of the mixture preventing it from taking a firm grip on the surface. Then when paint possessing the proper drying qualities is applied the drying action is such as to cause the undercoating to loosen its meager hold and the paint cracks and peels. These cheap, greasy oils in combination with cheap, dangerous driers, are extensively used in the manufacture of "bung hole boiled" linseed oil, which often appears to dry more quickly than a high grade boiled oil, but which invariably leaves a streaked film poorly bound to the surface. The life of a film of this character is usually so short as to make the job a very expensive one indeed, but it is made doubly so by the fact that it is a difficult matter to put the surface in a condition again to hold properly future coatings owing to the greasy character of the adulterants in the oil originally used on the job. Cheap resin and resin oils are frequently used as adulterants. They produce a tacky coat and greatly shorten the life of the paint. Other adulterants that might be mentioned are corn oil, cottonseed oil and other non-drying vegetable oils which prevent the paint from drying properly. The price of these oils is now so high, however, that it is not probable they they are being used to any extent if at all.

While an occasional dealer may be found who will wilfully buy adulterated linseed oil, the great majority are anxious to retain the good will of their trade by selling only commodities of known purity and value, and to these we would say, beware of the salesman who offers to sell linseed oil at a cut price.

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